Appendix E ECOTOX Bibliography

PHOSMET/PHOSMET OXON
Papers that Were Accepted for ECOTOX

Acceptable for ECOTOX and OPP

1. Ahmad, M., Hollingworth, R. M., and Wise, J. C. (2002). Broad-Spectrum Insecticide Resistance in Obliquebanded Leafroller _Choristoneura rosaceana_ (Lepidoptera: Tortricidae) from Michigan. *Pest Manag.Sci.* 58: 834-838.

   EcoReference No.: 70966
   Chemical of Concern: IDC,CFP,EMMB,MFZ,TUZ,BFT,ZCYP,AZ,CPY,PSM,CYP,DM,EFV,FNV,ES,TDC,MOM,CBL,SS; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(AZ,IDC,CFP,EMMB,MFZ,TUZ,BFT,ZCYP,CPY,PSM,CYP,DM,EFV,FNV,ES,TDC,MOM,CBL,SS).

2. Brunner, J. F., Dunley, J. E., Doerr, M. D., and Beers, E. H. (2001). Effect of Pesticides on Colpoclypeus florus (Hymenoptera: Eulophidae) and Trichogramma platneri (Hymenoptera: Trichogrammatidae), Parasitoids of Leafrollers in Washington. *J.Econ.Entomol.* 94: 1075-1084.

   EcoReference No.: 63713
   Chemical of Concern: AZ,DZ,DMT,MP,MDT,PSM,OML,CBL,FTT,AMZ,PMR,ES,EFV,IMC,SS,PPG,DFZ,FYC,TUZ,MFZ,AZD,CPY,PSM; Habitat: T; Effect Codes: MOR,BEH,REP; Rejection Code: LITE EVAL CODED(MP,AZ,DZ,CPY,DMT,MDT,PSM,OML,CBL,FTT,AMZ,PMR,ES,EFV,IMC,SS,PPG,DFZ,FYC,TUZ,MFZ,AZD),TARGET(CBL).

3. Burgess, N. M., Hunt, K. A., Bishop, C., and Weseloh, D. V. (1999). Cholinesterase Inhibition in Tree Swallows (Tachycineta bicolor) and Eastern Bluebirds (Sialia sialis) Exposed to Organophosphorus Insecticides in Apple Orchards in Ontario, Canada. *Environ.Toxicol.Chem.* 18 : 708-716.

   EcoReference No.: 47897
   Chemical of Concern: PHSL,PSM,AZ,DZ; Habitat: T; Effect Codes: BCM; Rejection Code: LITE EVAL CODED(DZ,PSM),OK(AZ).

4. DeVaney, J. A. and Ivie, G. W. (1980). Systemic Activity of Coumaphos, Famphur, Crufomate, Ronnel, and Phosmet Given Orally to Hens for Control of the Northern Fowl Mite, Ornithonyssus sylviarum (Canestrini and Fanzago). *Poult Sci* 59: 1208-1210.

   EcoReference No.: 48673
   Chemical of Concern: PSM,CMPH; Habitat: T; Effect Codes: POP,GRO,BEH; Rejection Code: LITE EVAL CODED(PSM).

5. Doerr, M. D., Brunner, J. F., and Schrader, L. E. (2004). Integrated Pest Management Approach for a New Pest, Lacanobia subjuncta (Lepidoptera: Noctuidae), in Washington Apple Orchards. *Pest Manag.Sci.* 60: 1025-1034.

   EcoReference No.: 82540
   Chemical of Concern: EMMB,MFZ,TUZ,CBL,TDC,MOM,ES,TMX,ACT,TAP,SS,AZD,AZ,CPY,PSM,MLN,IDC,EFV,KLN; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(ALL CHEMS),LITE

EVAL CODED(CPY).

6. Hagley, E. A. C. (1983). Pesticides, Pollination, and Fruit Set on Apple. *Can.Entomol.* 115: 1535-1536.

EcoReference No.: 36954
Chemical of Concern: AZ,PMR,PHSL,PSM; Habitat: T; Effect Codes: POP,BEH,REP,GRO; Rejection Code: LITE EVAL CODED(PSM,PMR),OK(AZ).

7. Haley, T. J., Farmer, J. H., Harmon, J. R., and Dooley, K. L. (1975). Estimation of the LD1 and Extrapolation of the LD0.1 for Five Organothiophosphate Pesticides. *Eur.J.Toxicol.* 8: 229-235.

EcoReference No.: 61388
Chemical of Concern: FNT,AZ,MP,PRN,PSM; Habitat: T; Effect Codes: PHY,MOR; Rejection Code: LITE EVAL CODED(PSM),OK(AZ,MP).

8. Harris, C. R. and Svec, H. J. (1970). Laboratory Studies on the Contact Toxicity of Some Insecticides to Honeybees. *Proc.Entomol.Soc.Ont.* 100: 165-167.

EcoReference No.: 96694
Chemical of Concern: ES,MXC,PSM,MLN,DZ,MOM,CBF,PRN,Naled,AZ,DMT,CBL,DLD; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(PSM),OK(MLN,DZ,MOM,CBF,Naled,AZ,DMT,CBL).

9. Heath, R. G., Spann, J. W., Hill, E. F., and Kreitzer, J. F. (1972). Comparative Dietary Toxicities of Pesticides to Birds. *U.S.Bureau of Sport Fisheries and Wildlife.Special Scientific Report-Wildlife No.152* 57 p.

EcoReference No.: 35214
Chemical of Concern: ABT,AND,AMTL,ATZ,PPX,Captan,CHL,CHD,TCF,24DXY,DDT,24DB,DDVP,DEM,DEZ,DBN,DCF,DLD,DS,CU,CPY,DMT,SZ,FNF,ES,EN,TXP,FNT,FNTH,AZ,HPT,PSM,HCCH,MLN,MCPB,MTAS,MOM,MXC,MP,MRX,Nabam,Naled,OXC,PRN,PCP,PRT,PPHD,PCL,TFM,THM; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(PSM,DS,CBL,DZ,ATZ,SZ,DMT,MLN,MP,Captan,Naled).

10. Hill, E. F. and Camardese, M. B. (1986). Lethal Dietary Toxicities of Environmental Contaminants and Pesticides to Coturnix. *U.S.Fish Wildl.Serv., Fish Wildl.Tech.Rep.No.2* 147 p.

EcoReference No.: 50181
Chemical of Concern: PSM,PRT,ADC,PMR,PRN,PAQT,ACP,Naled,MLN,HCCH,HPT,FNF,EN,ES,TMP,MTAS,MTM,MOM,AND,ATZ,BMY,DCTP,CBL,Captan,CPY,TBO,DZ,DLD,DU,FNTH,AZ,SZ,CPYM; Habitat: T; Effect Codes: MOR,BEH; Rejection Code: LITE EVAL CODED(ADC,ACP,MLN,MTAS,MTM,MOM,CBL,Captan,DZ,SZ,ATZ,MP,Naled,CPY,MLT,CBF,CPYM,PSM),OK(ALL CHEMS),NO COC(BMC).

11. Hill, E. F., Heath, R. G., Spann, J. W., and Williams, J. D. (1975). Lethal Dietary Toxicities of Environmental Pollutants to Birds. *U.S.Fish and Wildl.Serv.No.191, Special Scientific Report-Wildlife* 1-61.

EcoReference No.: 35243
Chemical of Concern: 24DXY,ABT,ADC,AMTL,AND,ATZ,Captan,CBF,CBL,Cd,Cr,DDT,DLD,DMT,DS,DU,DZ,ES,ETN,FNT,HCCH,Hg,HPT,MCPB,MLN,MP,MRX,MTAS,MXC,Naled,Pb,PCB,PCL,PCP,PQT,PRN,PRT,PYN,RSM,RTN,SZ,TFM,THM,TVP,TXP,Zn,ZnP,As,AZ,OXD,PSM,LNR; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(LNR,PSM,DS,24DXY,CPY,MP,Naled,Captan,MLN,OXD,MTAS,CBL,DZ,ATZ,CBF,ADC,MOM,DMT,SZ,ZnP,RTN,RSM,MCPB,PCP,PRT),OK(ALL CHEMS).

12. Hoffman, D. J. and Albers, P. H. (1984). Evaluation of Potential Embryotoxicity and Teratogenicity of 42 Herbicides, Insecticides, and Petroleum Contaminants to Mallard Eggs. *Arch.Environ.Contam.Toxicol.* 13: 15-27.

EcoReference No.: 35249
Chemical of Concern: ACP,CBL,DZ,DMT,EN,HCCH,MLN,MOM,Naled,PRN,PMR,PSM,SPS,TMP,TXP,AMTL,ATZ,BMN,MCPA,24DXY,DMB,GYP,PAQT,PCL,PRO,PPN,TFN,ALSV; Habitat: T; Effect Codes: MOR,GRO; Rejection Code: LITE EVAL CODED(PSM,24DXY,Naled,MLN,CBL,ACP,PRO,DZ,ATZ,MOM,DMT,DMB,ALSV),OK(ALL CHEMS),NO MIXTURE(BMN,MCPA).

13. Hudson, R. H., Tucker, R. K., and Haegele, M. A. (1984). Handbook of Toxicity of Pesticides to Wildlife. *Resour.Publ.No.153, Fish Wildl.Serv., 2nd Edition, U.S.D.I., Washington, DC* 90 p.

EcoReference No.: 50386
Chemical of Concern: ACP,ACL,ACR,ADC,AND,ATN,AMTL,ANZ,ATZ,4AP,AZ,PPX,BTY,Captan,CBL,CBF,CHD,CQTC,CPY,CMPH,CZE,24D,DDT,DDVP,DEF,DEM,DZ,DBN,DLN,DCF,DCTP,DLD,DMT,DQTBr,DS,DU,ES,EDT,EN,EP,ETN,FNT,FNTH,FMV,Folpet,FNF,HPT,PSM,HCCH,MLN,MDT,MCB,MOM,MTPN,MXC,MP,MVP,MRX,NABAM,Naled,FMP,PQT,PRN,PCP,PRT,PCL,RSM,RTN,STAR,STCH,TCDD,TMP,TZL,TVP,TZL,THM,TXP,TCF,TFN,ZnP,Zineb,PCB; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(PSM,ATZ,DU,MDT,PRT,RTN,CPY,24D,DS).

14. Johnson, J. C. Jr. and Bowman, M. C. (1968). Fate of Bidrin and Imidan when Fed in Silage to Lactating Dairy Cows. *J.Dairy Sci.* 51: 1225-1228.

EcoReference No.: 37334
Chemical of Concern: PSM,DCTP; Habitat: T; Effect Codes: BEH,PHY,BCM,ACC; Rejection Code: LITE EVAL CODED(PSM).

15. Johnson, J. C. Jr., Lowrey, R. S., Bowman, M. C., Leuck, D. B., Beck, E. W., and Derbyshire, J. C. (1968). Responses from Cows Fed Silages Containing Imidan Residues. *J.Dairy Sci.* 51: 1219-1224.

EcoReference No.: 37338
Chemical of Concern: PSM; Habitat: T; Effect Codes: PHY,ACC,BCM,REP; Rejection Code: LITE EVAL CODED(PSM).

16. Julin, A. M. and Sanders, H. O. (1977). Toxicity and Accumulation of the Insecticide Imidan in Freshwater Invertebrates and Fishes. *Trans.Am.Fish.Soc.* 106: 386-392 (Publ in Part As 6797).

EcoReference No.: 857
Chemical of Concern: PSM; Habitat: A; Effect Codes: ACC,MOR,PHY; Rejection Code: LITE EVAL CODED(PSM).

17. Martson, L. V. and Voronina, V. M. (1976). Experimental Study of the Effect of a Series of Phosphoroorganic Pesticides (Dipterex and Imidan) on Embryogenesis. *Environ.Health Perspect.* 13: 121-125.

EcoReference No.: 94874
Chemical of Concern: TCF,PSM; Habitat: T; Effect Codes: REP,MOR,PHY; Rejection Code: LITE EVAL CODED(PSM).

18. Mayer, D. F., Lunden, J. D., and Kovacs, G. (1997). Susceptibility of Four Bee Species (Hymenoptera: Apoidea) to Field Weathered Insecticide Residues. *J.Entomol.Soc.B.C.* 94: 27-30.

EcoReference No.: 91624

Chemical of Concern: MDT,OMC,TDC,CYP,CBF,DM,MTM,MP,PMR,PSM,PRB,TCF; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(MP,MDT,DMC,PMR,PSM),OK(MTM).

19. McLeod, M. J., Twidwell, E. K., and Gallenberg, D. J. (1994). Alfalfa Weevil Control, 1993. *Arthropod Manag.Tests* 19: 172-173 (No. 7F).

EcoReference No.: 88952
Chemical of Concern: CPY,CBF,PSM,MP,MLN,CBL,PMR; Habitat: T; Effect Codes: POP,BCM; Rejection Code: LITE EVAL CODED(CPY,CBL,MLN,PSM,PMR),OK(CBF,MP).

20. Mount, M. E. (1984). Comparison of Measurement of Dialkyl Phosphates in Milk/Urine and Blood Cholinesterase and Insecticide Concentrations in Goats Exposed to the Organophosphate Insecticide, Imidan. *Toxicol.Appl.Pharmacol.* 72: 236-244.

EcoReference No.: 38047
Chemical of Concern: PSM; Habitat: T; Effect Codes: ACC,BCM,CEL,PHY; Rejection Code: LITE EVAL CODED(PSM).

21. Serrano, R., Hernandez, F., Pena, J. B., Dosda, V., and Canales, J. (1995). Toxicity of Bioconcentration of Selected Organophosphorus Pesticides in Mytilus galloprovincialis and Venus gallina. *Arch.Environ.Contam.Toxicol.* 29: 284-290.

EcoReference No.: 14927
Chemical of Concern: CPY,DMT,MDT,PSM; Habitat: A; Effect Codes: ACC,MOR,BEH; Rejection Code: LITE EVAL CODED(PSM,CPY,DMT),OK(ALL CHEMS).

22. Shellenberger, T. E., Gough, B. J., and Escuriex, L. A. (1970). The Comparative Toxicity of Organophosphate Pesticides in Wildlife. *In: W.B.Deichmann, (Ed.), Pesticides Symposia, Inter-Am.Conf.Toxicol.Occup.Med., Univ.of Miami Schl.of Med., Miami, FL* 205-210.

EcoReference No.: 73198
Chemical of Concern: FNT,PSM,PRN,MP,AZ,DCTP; Habitat: T; Effect Codes: REP,MOR,BCM; Rejection Code: LITE EVAL CODED(MP,PSM),OK(AZ).

23. Sherman, M., Herrick, R. B., Chang, M. T. Y., and Menn, J. J. (1967). Comparative Toxicity of Imidan and Homologs Containing Asymmetrical Esters to the Chick, Rat, and House Fly. *J.Med.Entomol.* 4: 451-455.

EcoReference No.: 96637
Chemical of Concern: PSM; Habitat: T; Effect Codes: MOR,GRO; Rejection Code: LITE EVAL CODED(PSM).

24. Sherman, M., Ross, E., and Chang, M. T. Y. (1964). Acute and Subacute Toxicity of Several Organophosphorus Insecticides to Chicks. *Toxicol.Appl.Pharmacol.* 6: 147-153.

EcoReference No.: 38751
Chemical of Concern: PSM,OXD; Habitat: T; Effect Codes: GRO,MOR,PHY,BCM; Rejection Code: LITE EVAL CODED(PSM),OK(OXD).

25. Sherman, M. and Sanchez, F. F. (1968). Further Studies on the Toxicity of Insecticides and Acaricides to the Papaya. *Hawaii.Agric.Exp.Sta.Tech.Bull.* 74: 5-63.

EcoReference No.: 25114
Chemical of Concern: DCF,ES,ADC,CBL,DCTP,DDVP,MVP,Naled,PPHD,DZ,DMT,PSM,TCF; Habitat: T; Effect Codes: PHY,GRO,CEL,MOR; Rejection Code: LITE EVAL CODED(Naled,DMT,PSM),OK TARGET(ADC),OK(CBL,DZ).

26. Short, R. D., Minor, J. L., Unger, T. M., Breeden, B., and Van Goethem, D. (1980). The Effect of Imidan Administered to Pregnant Rats. *EPA/600/1-80/008, U.S.Environmental Protection Agency, Washington, D.C.* 23 p. (NTIS/PB80-159627).

EcoReference No.: 96426
Chemical of Concern: PSM; Habitat: T; Effect Codes: PHY,REP,GRO,MOR,BEH; Rejection Code: LITE EVAL CODED(PSM).

27. Simonet, D. E., Knausenberger, W. I., Townsend, L. H. Jr., and Turner, E. C. Jr. (1978). A Biomonitoring Procedure Utilizing Negative Phototaxis of First Instar Aedes aegypti Larvae. *Arch.Environ.Contam.Toxicol.* 7: 339-347.

EcoReference No.: 60134
Chemical of Concern: CdS,CuS,CrO3,FNT,MOM,CBF,FNT,PSM; Habitat: A; Effect Codes: BEH,MOR; Rejection Code: LITE EVAL CODED(MOM,PSM),OK(CuS,CrO3,CBF).

28. Smith, C. R., Funke, B. R., and Schulz, J. T. (1978). Effects of Insecticides on Acetylene Reduction by Alfalfa, Red Clover and Sweetclover. *Soil Biol.Biochem.* 10: 463-466.

EcoReference No.: 64478
Chemical of Concern: CBF,ADC,PSM,CBL,CPY; Habitat: T; Effect Codes: GRO,BCM; Rejection Code: LITE EVAL CODED(PSM),OK(ADC,CBF,CBL,CPY).

29. Staples, R. E., Kellam, R. G., and Haseman, J. K. (1976). Developmental Toxicity in the Rat After Ingestion or Gavage of Organophosphate Pesticides (Dipterex, Imidan) During Pregnancy. *Environ.Health Perspect.* 13: 133-140.

EcoReference No.: 35457
Chemical of Concern: PSM; Habitat: T; Rejection Code: LITE EVAL CODED(PSM).

30. Varsik, P., Buranova, D., Kondas, M., Kucera, P., Goldenberg, Z., and Pokorna, V. (2005). Chronic Toxic Neuropathy After Organophosphorus Poisoning in Quails (Coturnix coturnix japponica). *Bratisl.Lek.Listy* 106: 293-296.

EcoReference No.: 95291
Chemical of Concern: PSM; Habitat: T; Effect Codes: PHY; Rejection Code: LITE EVAL CODED(PSM).

Acceptable for ECOTOX but not OPP

1. Abd-Elsalam, A. M., Minessy, F. A., Eldafrawi, M. E., Hammad, S. M., and Zeid, M. M. (1969). Effect of Different Insecticides on Fruit Quality of Two Varieties of Oranges. *Alex.J.Agric.Res.* 16: 143-158.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

2. Abdelsalam, E. B. (1999). Neurotoxic Potential of Six Organophosphorus Compounds in Adult Hens. *Vet.Hum.Toxicol.* 41: 290-292.

EcoReference No.: 83898
Chemical of Concern: DZ,CMPH,PPHD,DDVP,TCF,PSM; Habitat: T; Effect Codes: BCM,PHY; Rejection Code: NO ENDPOINT(ALL CHEMS).

3. Abrol, D. P. and Bhat, A. A. (1996). Effect of Spacing, Intercropping and Insecticides on the Management of Tomato Fruit Borer, Helicoverpa armigera (Hubner). *J.Insect Sci.* 9: 170-171.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

4. Abu, J. F. and Ellis, C. R. (1977). Toxicity of Five Insecticides to the Alfalfa Weevil, Hypera postica, and Its Parasites, Bathyplectes curculionis and Microctonus aethiopoides. *Environ.Entomol.* 6: 385-389.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

5. Ackermann, H., Seidler, H., Kagan, Y. S., and Voronina, V. M. (1976). Metabolic and Toxic Behavior of Phthalimide Derivatives. I. Fate of Imidan in the Fetus. *Arch.Toxikol.* 36: 127-137.

EcoReference No.: 94891
Chemical of Concern: PSM; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT,NO CONTROL(PSM).

6. Adkisson, P. L. and Nemec, S. J. (1967). Insecticides for Controlling the Bollworm, Tobacco Budworm and Boll Weevil. *Misc.Publ.No.MP-837, Agric.Exp.Stn., TX* 7 p.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

7. Adlerz, W. C. (1978). Pickleworm Control on Cantaloupe and Summer Squash. *In: Proc.Fla.State Hortic.Soc.* 90: 399-400.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

8. Ahrens, E. H., Davey, R. B., George, J. E., and Pemberton, J. R. (1995). Management of a Phosmet-Charged Dipping Vat and the Control of Boophilus annulatus. *Southwest.Entomol.* 20: 335-340.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

9. Ajami, A. M. (1975). Inhibitors of Ester Hydrolysis as Synergists for Biological Activity of Cecropia Juvenile Hormones. *J.Insect Physiol.* 21: 1017-1025.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

10. AliNiazee, M. T. and Stafford, E. M. (1973). Management of Grape Pests in Central California Vineyards. 1. Cultural and Chemical Control of Platynota stultana on Grapes. *J.Econ.Entomol.* 66: 154-157.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

11. Alston, D. G. (1992). Western Cherry Fruit Fly Control of Tart Cherry 1990 and 1991. *Insectic.Acaric.Tests* 17: 57.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

12. Anonymous (1982). Insecticidal Compositions. *Res.Disclosure* 219: 271-272.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

13. Ardo, J. (1974). K Otazke Akutnej Toxicity Niektorych Pesticidov. (Acute Toxicity of Some Pesticides). *Vodni Hospod.* 24: 222-224 (SLO).

EcoReference No.: 6102
Chemical of Concern: MLN,DDVP,TCF,PSM; Habitat: A; Rejection Code: NO FOREIGN,NO CONTROL(ALL CHEMS).

14. Arne, C. N., Becker, S. A., and Bailey, W. C. (1991). Alfalfa Weevil Control Missouri (Northern), 1989. *Insectic.Acaric.Tests* 16: 123 (1F).

EcoReference No.: 90636
Chemical of Concern: MLN,CBL,PMR,EFV,CYF,CYP,CBF,LCYT,PSM,TDC,CPY; Habitat: T; Effect Codes: POP; Rejection Code: OK TARGET(ALL CHEMS),OK(CBF),TARGET(PSM).

15. Asquith, D. (1970). Codling Moth, Read-Banded Leaf Roller, Apple Aphid, Europena Red Mite, and Two-Spotted Spider Mite Control on Apple Trees. *J.Econ.Entomol.* 63: 181-185.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

16. Atwood, S. T., Sheets, T. J., Sutton, T. B., and Leidy, R. B. (1987). Stability of Selected Pesticide Formulations and Combinations in Aqueous Media. *J.Agric.Food Chem.* 35: 169-172.

EcoReference No.: 90321
Chemical of Concern: AZ,MZB,Captan,PSM,CPY; Habitat: T; Effect Codes: ACC,REP,GRO; Rejection Code: NO FATE(PSM),TARGET(MZB,Captan),NO MIXTURE(AZ,CPY).

17. Avrahami, M. and White, D. A. (1978). Phosmet Residues in Milk of Cows After "Pour-on" and Spray Treatments. *N.Z.J.Exp.Agric.* 6: 119-122.

EcoReference No.: 35692
Chemical of Concern: PSM; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT,NO CONTROL(PSM).

18. Ayers, J. C. Jr. and Barden, J. A. (1975). Net Photosynthesis and Dark Respiration of Apple Leaves as Affected by Pesticides. *J.Amer.Soc.Hort.Sci.* 100: 24-28.

EcoReference No.: 43644
Chemical of Concern: PHSL,PRN,AZ,BMY,DLD,DOD,ES,FBM,PHSL,PPHD,THM,OML,MLN,Zineb,CBL,Folpet,DINO,PSM; Habitat: T; Effect Codes: BCM; Rejection Code: NO CONTROL,ENDPOINT(Folpet),OK(ALL CHEMS),NO COC(Maneb).

19. Aziz, S. A. (1973). Toxicity of Certain Insecticide Standards Against the Southern Armyworm. *J.Econ.Entomol.* 66: 68-70.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

20. Bailey, P. T. and O'Sullivan, D. F. (1978). Insecticides Against Larvae of the Cacao Webworm Pansepta teleturga Meyrick (Lepidoptera: Xyloryctidae). *Papua New Guinea Agric.J.* 29: 27-31.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

21. Bailey, W. C., Arne, C. N., and Becker, S. A. (1991). Alfalfa Medicago-Sativa L. Buffalo Alfalfa Weevil Hypera-Postica Gyllenhal Alfalfa Weevil Control Missouri Usa Southern, 1989. *Insectic.Acaric.Tests* 16: 123-124.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

22. Bajwa, W. I. (1996). Integrated of Microbial and Chemical Controls Against Codling Moth, Cydia pomonella (L.): Laboratory and Field Evaluation (Bacillus thuringiensis, Pest Management, Biological Control). *Ph.D.Thesis, Oregon State Univ.* 242 p.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

23. Bajwa, W. I. and AliNiazee, M. T. (2001). Spider Fauna in Apple Ecosystem of Western Oregon and Its Field Susceptibility to Chemical and Microbial Insecticides. *J.Econ.Entomol.* 94: 68-75.

EcoReference No.: 59323
Chemical of Concern: AZ,PSM,EFV,PMR,CBL,DFZ,TDC; Habitat: T; Effect Codes: POP; Rejection Code: OK TARGET(PSM).

24. Bakalivanov, D. (1972). Biological Activity of Certain Herbicides on Microscopic Soil Fungi. *Symp.Biol.Hung.* 11: 373-377.

EcoReference No.: 95413
Chemical of Concern: ATZ,PMT; Habitat: T; Effect Codes: BCM,GRO; Rejection Code: NO COC(PSM).

25. Ball, J. C. (1981). Pesticide-Induced Differences in Relative Abundance of Mites on Pecans. *J.Econ.Entomol.* 74: 425-427.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: CBF,MXC,MP,PSM; Habitat: T; Effect Codes: MOR,ACC; Rejection Code: OK(CBF),OK TARGET(MP,PSM).

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Chemical of Concern: PSM,MTM,DDT,ES,PRN; Habitat: T; Effect Codes: POP; Rejection Code: EFFICACY(PSM,MTM).

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EcoReference No.: 83279
Chemical of Concern: AZ,PSM,ACT,EFV,TAP,TMX,IMC,PSM; Habitat: T; Effect Codes: POP; Rejection Code: OK(ALL CHEMS),OK TARGET(AZ,EFV,PSM).

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EcoReference No.: 95425
Chemical of Concern: ABT,AND,DLD,HPT,PSM; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(PSM).

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EcoReference No.: 35908
Chemical of Concern: AZ,PHSL,DMT,CHX,PSM,PMR,FNV,DZ,Captan,MEM,BMY,TPE; Habitat: T; Effect Codes: POP; Rejection Code: EFFICACY(PSM,AZ,DMT,PMR,FNV,DZ).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET(PSM).

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EcoReference No.: 5365
Chemical of Concern: 24DXY,BT,CPY,DMT,DZ,MLN,PSM,PHMD,OMT; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN,NO CONTROL(ALL CHEMS),NO CONTROL(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: CBF,MDT,CBL,PSM; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(PSM).

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EcoReference No.: 90831
Chemical of Concern: DINO,BMY,MZB,TPM,FNT,MLH,PSM; Habitat: T; Effect Codes: CEL,GRO,MOR; Rejection Code: NO ENDPOINT(MZB).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 83354
Chemical of Concern: AZ,PSM,ACT,EFV,TAP,TMX,IMC; Habitat: T; Effect Codes: POP; Rejection Code: OK(ALL CHEMS),NO COC(NCTN),TARGET(AZ,EFV,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 72767
Chemical of Concern: AZ,CPY,CYP,PSM,MLN,MP,MOM,AMZ,PRN,PIM,CPYM,FNV,MVP,DM,PSM,EFV; Habitat: T; Effect Codes: MOR; Rejection Code: OK TARGET(MLN,CYP,AZ),TARGET(MOM,MP,FNV,CPYM,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 73097
Chemical of Concern: EFV,MLN,ES,PMR,MOM,CBL,MP,PSM,AZD,PRN; Habitat: T; Effect Codes: POP,GRO,BCM; Rejection Code: LITE EVAL CODED(EFV,MOM,AZD),EFFICACY(MLN,PMR,CBL,MP,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 2188
Chemical of Concern: AZ,CBL,DZ,HCCH,MLN,Naled,PSM,24DXY,DS,DU,PEB,Folpet,RTN,FBM,CHD,DEM,TXP,MRX,ETN,DZ,AND,MCPA,HPT,DDT,DDVP,EN,CBL,MXC,OXD; Habitat: A; Effect Codes: NOC,GRO,MOR,BEH,PHY; Rejection Code: NO CONTROL(ALL CHEMS),NO ENDPOINT,NO CONTROL(PSM,DS,24DXY,OXD,MLN).

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Chemical of Concern: AZ,DS,HCCH,MLN,MP,Naled,PRT,24DXY,CMPH,DMT,DU,PEB,PSM,NTP,TXP,CBL,TBF; Habitat: A; Effect Codes: BEH,POP,MOR,GRO,ACC,SYS; Rejection Code: NO CONTROL(PSM,DS,MP,Naled),LITE EVAL CODED(MLN,PRT),OK(ALL CHEMS),NO ENDPOINT(DMT),NO ENDPOINT,NO CONTROL(24DXY,TBF).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: MOM,PSM; Habitat: T; Rejection Code: TARGET(MOM,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: ADC,EP,CBF,PRT,CYF,PSM; Habitat: T; Effect Codes: POP,REP,GRO; Rejection Code: OK(CBF,ADC),EFFICACY(PRT,CYF,PSM).

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Chemical of Concern: PSM,DZ,ACP,PPX,CBL,HCCH; Habitat: T; Effect Codes: POP,GRO; Rejection Code: TARGET(PSM,DZ,ACP,CBL).

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Chemical of Concern: PSM; <u>Habitat</u>: T; <u>Rejection Code</u>: EFFICACY (PSM).

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Chemical of Concern: PSM; <u>Habitat</u>: T; <u>Rejection Code</u>: EFFICACY (PSM).

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EcoReference No.: 90769
Chemical of Concern: MP,FNT,FNTH,MDT,AZ,PSM,MLN; <u>Habitat</u>: A; <u>Effect Codes</u>: MOR,BCM; <u>Rejection Code</u>: NO CONTROL(ALL CHEMS).

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Chemical of Concern: PSM; <u>Habitat</u>: T; <u>Rejection Code</u>: TARGET(PSM).

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EcoReference No.: 95287
Chemical of Concern: AZ,DMT,MP,ETN,PSM,TCF; Habitat: T; Effect Codes: ACC; Rejection Code: NO CONTROL,ENDPOINT(AZ,DMT,MP,PSM).

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EcoReference No.: 58566
Chemical of Concern: AZM,DZ,CBL,DDT,EFV,FPP,CPY,MP,PSM; Habitat: T; Effect Codes: MOR; Rejection Code: OK TARGET(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT,NO CONTROL(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: CPY,TDC,AZ,PSM; Habitat: T; Effect Codes: POP; Rejection Code: NO MIXTURE(TDC),OK TARGET(PSM,CPY,AZ).

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Chemical of Concern: PSM,MLN,MXC,CBL,CPY,EFV; Habitat: T; Effect Codes: POP; Rejection Code: OK(MXC),TARGET(EFV,MLN,CBL,CPY,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 89653
Chemical of Concern: PMR,PSM; Habitat: T; Effect Codes: POP,PHY; Rejection Code: NO COC(CTN),EFFICACY(PMR,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 36729
Chemical of Concern: AND,CHD,DDT,DLD,ES,EN,HPT,HCCH,TXP,DZ,PRN,As,Cu,CBL,NAPH,PAH,PCP,CN,PQT,PPB,PPHD,Zineb,MRX,ABT,DMT,DS,FNT,PSM,Naled,OXD,THM,HCCH,MLN,MP,FPN,ETN,TBF; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 91381
Chemical of Concern: TCF,PRN,Naled,MXC,MOM,MLN,FNF,DINO,AZ,BMY,Captan,CBL,CBF,DDT,DZ,DDVP,DMT,DCF,ES,PSM; Habitat: T; Effect Codes: REP; Rejection Code: NO ENDPOINT(ALL CHEMS).

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EcoReference No.: 78342
Chemical of Concern: As,PMR,PSM; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(As),TARGET(PSM).

186. Gladney, W. J., Ernst, S. E., Dawkins, C. S., Drummond, R. O., and Graham, O. H. (1972). Feeding Systemic Insecticides to Cattle for Control of the Tropical Horse Tick. *J.Econ.Entomol.* 9: 439-442.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 73696
Chemical of Concern: MOM,DZ,PMR,FNV,CBL,PSM; Habitat: T; Effect Codes: MOR,REP; Rejection Code: TARGET(DZ,CBL,MOM,FNV,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 8563
Chemical of Concern: PSM; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

197. Hall, F. R. (1979). Effects of Synthetic Pyrethroids on Major Insect and Mite Pests of Apple. *J.Econ.Entomol.* 72: 441-446.

EcoReference No.: 36963
Chemical of Concern: DMT,PIM,FNV,FNT,DZ,PMR,PRN,MOM,AZ,PSM,Captan; Habitat: T; Effect Codes: MOR,BEH,POP; Rejection Code: EFFICACY(PSM,DMT,FNV,DZ,PMR,MOM,AZ).

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EcoReference No.: 88832
Chemical of Concern: PSM,Captan,DOD,PMR,EFV,FO,CBL,TDC; Habitat: T; Effect Codes: POP; Rejection Code: OK(DOD,FO),TARGET(PMR,EFV,CBL,TDC,PSM),NO MIXTURE(Captan).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 58597
Chemical of Concern: CYP,DMT; Habitat: T; Effect Codes: MOR,POP; Rejection Code: TARGET(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 49989
Chemical of Concern: TVP,PSM,TBO,FNF,AZ,ES,MDT,CPY,DMT,MXC,CHD,PHSL,PIRM,TCF,PRN,ACP,MLN,DDT,CBL,Naled,CBF,CPY,EN,MOM; Habitat: T; Effect Codes: MOR; Rejection Code: NO ENDPOINT(MLN,Naled,CBF,CBL,AZ,TCF,DMT),OK(MDT,MOM,DDT),TARGET (DMT,CPY,PSM).

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EcoReference No.: 72206
Chemical of Concern: DZ,DDT,AND,PSM,PMR,MVP,PRN,CPY,Naled,MOM,MLN,DM,CYP,CBF,AZ,FNV,FNF,ACP; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(CBF,CPY),TARGET(DZ,CYP,MLN,Naled,ACP,AZ,PMR,FNV,PSM),OK(ALL CHEMS).

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EcoReference No.: 19300
Chemical of Concern: DZ,PSM,MYC,ES,AZ; Habitat: A; Effect Codes: MOR,GRO; Rejection Code: LITE EVAL CODED(AZ,DZ),NO COC(ATZ),OK(MYC,DZ,ES),NO COC(MZB,Maneb),NO ENDPOINT(PSM).

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EcoReference No.: 91003
Chemical of Concern: Captan,Folpet,DMZ,PSM; Habitat: T; Effect Codes: GRO,CEL; Rejection Code: NO ENDPOINT(Captan,PSM,Folpet).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 79045
Chemical of Concern: MVP,PFF,TBO,DCB,MXC,CYP,DM,FNV,CBX,DZM,NCTN,FMP,MDT,IFP,IZF,FNTH,FNT,ETN,FNF,DMT,DDVP,CPYM,CPY,AZ,AZM,PPX,PIM,OML,MOM,MCB,ADC,NAPH,PMR,ES,PCB,PSM,DS,DZ,CBF,CBL,PRT; Habitat: T; Effect Codes: MOR; Rejection Code: OK(ALL CHEMS),TARGET(CBL,PRT,DZ,NAPH,DCB,MOM,FNV,DMT,CPYM,DS,PSM).

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Chemical of Concern: PSM; Habitat: AT; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

224. Hewett, G. R. (1983). Systemic Control of Pig Mange. *Vet.Rec.* 112: 111-112.

EcoReference No.: 96711
Chemical of Concern: PSM; Habitat: T; Effect Codes: MOR,POP; Rejection Code: NO ENDPOINT,NO CONTROL(PSM).

225. Hislop, R. G., Auditore, P. J., Weeks, B. L., and Prokopy, R. J. (1981). Repellency of Pesticides to the Mite Predator Amblyseius fallacis. *Prot.Ecol.* 3: 253-257.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 70632
Chemical of Concern: MOM,CBL,PHSL,DZ,DEM,DMT,FNV,PMR,PPHD,MLN,PSM,AZ,MP,ES,MXC,FTTCl,DCF,CHX,PPG,FO,BMY,DOD,Maneb,THM,Captan,FBM,PAQT,GYP,SZ,DMZ,EPH,NAA,CaCl2; Habitat: T; Effect Codes: MOR,REP,POP; Rejection Code: NO ENDPOINT(ALL CHEMS),TARGET(MP, DMT,FNV).

227. Hogmire, H. W. and Winfield, T. (1999). Insecticide Evaluation, 1998. *Arthropod Manag.Tests* 24: 12-14.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

228. Hogmire, H. W. and Winfield, T. (1998). Insecticide Evaluation I, 1997. *Arthropod Manag.Tests* 23: 8-10.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

229. Hogmire, H. W. and Winfield, T. (2005). Insecticide Evaluation I, 2004. *Arthropod Manag.Tests* 30: A7.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 91080
Chemical of Concern: PSM,ES,EFV,MP,MOM; Habitat: T; Effect Codes: POP; Rejection Code: OK(MOM),TARGET(EFV,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: MOM,ADC,CBF,DMT,PPB,WRN,RTN,CYP,FVL,PSM; Habitat: T; Rejection Code: TARGET(CYP,FVL,MOM, DM,PSMT).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

237. Horsburgh, R. L., Kilmer, S. W., and Cook, K. (1993). Apple Seasonal Insecticide Evaluations, 1991. *Insectic.Acaric.Tests* 27-30.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 88830
Chemical of Concern: CBL,CPY,PSM,DMT,FVL; Habitat: T; Effect Codes: POP; Rejection Code: NO ENDPOINT(ALL CHEMS,TARGET-CBL,DMT,FVL,CPY) .

241. Howitt, A. and Biddinger, D. J. (1988). Blueberry, Cranberry Fruitworm Insecticide Test, 1987. *Insectic.Acaric.Tests* 13: 63 (No. 2C).

EcoReference No.: 88833
Chemical of Concern: CPY,CBL,EFV,FPP,FVL,ACP,PSM; Habitat: T; Effect Codes: POP; Rejection Code: OK(FPP),TARGET(CBL,EFV,FVL,ACP,CPY,PSM).

242. Howland, A. F. and Wilcox, J. (1965). New Insecticides for Control of Onion Thrips. *J.Econ.Entomol.* 59: 969-971.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

243. Hoy, C. W. and Dunlap, M. J. (1995). Colorado Potato Beetle Control, 1994. *Arthropod Manag.Tests* 20: 112-113.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

244. Hoy, C. W. and Vaughn, T. T. (1992). Colorado Potato Beetle Control, 1991. *Insectic.Acaric.Tests* 126-127.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

246. Huddleston, E. W., Ward, C. R., and Parodi, R. A. (1972). Chemical Control of Astylus astromaculatus Attacking Grain Sorghum in Argentina. *J.Econ.Entomol.* 65: 892-894.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

247. Hull, L. A. (1997). Apple Evaluation of Insecticides on Indirect Pests, 1996. *Arthropod Manag.Tests* 22: 19-21.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

248. Hull, L. A. (2006). Concentrate Airblast Insect Experiment, 2005. *Arthropod Manag.Tests* 31: 9 p. (A15).

EcoReference No.: 93202

Chemical of Concern: AZ,MFZ,PSM,ACT,ABM,CPY,HTX,IMC; Habitat: T; Effect Codes: POP; Rejection Code: OK TARGET(AZ,PSM,CPY,HTX).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

250. Hull, L. A. (1994). Pear Seasonal Pear Psylla Control, 1993. *Arthropod Manag.Tests* 19: 30-32.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

251. Hull, L. A., Asquith, D., and Mowery, P. D. (1978). Integrated Control of the European Red Mite with and Without the Mite Suppressant Dinocap. *J.Econ.Entomol.* 71: 880-885.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

254. Hull, L. A. and Myers, C. (2005). Concentrate Airblast Insect Experiment, 2004. *Arthropod Manag.Tests* 30: A12.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

256. Hurej, M. and Dutcher, J. D. (1994). Indirect Effect of Insecticides Used in Pecan Orchards to Larvae of Chrysoperla rufilabris (Neuroptera: Chrysopidae). *J.Entomol.Sci.* 29: 450-456.

Chemical of Concern: MOM,PSM; Habitat: T; Rejection Code: TARGET(MOM,PSM).

257. Hurkova, J. and Horak, A. (1979). Toxicity of the Organophosphate and Carbamate Aphicides to the Pea Aphid, Acyrthosiphon pisum (Homoptera, Aphididae). *Acta Entomol.Bohemoslovaca* 76: 137-139.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

258. ICI Amers.Inc. (1992). Initial Submission: Imidan: 21-Day Sub-Acute Dermal Toxicity in Rabbits with Cover Letter Dated 082892. *EPA/OTS Doc.#88-920007426* 50 p. (NTIS/OTS 0545680).

EcoReference No.: 96754
Chemical of Concern: PSM; Habitat: T; Effect Codes: GRO,CEL,REP,MOR,BEH; Rejection Code: NO ENDPOINT(PSM).

259. Iftner, D. C. and Hall, F. R. (1983). Effects of Fenvalerate and Permethrin on Tetranychus urticae Koch (Acari: Tetranychidae) Dispersal Behavior. *Environ.Entomol.* 12: 1782-1786.

EcoReference No.: 71018
Chemical of Concern: PMR,FNV,PSM; Habitat: T; Effect Codes: POP; Rejection Code: NO ENDPOINT(FNV,PMR,PSM).

260. Iftner, D. C. and Hall, F. R. (1984). The Effects of Fenvalerate and Permethrin Residues on Tetranychus urticae Koch Fecundity and Rate of Development. *J.Agric.Entomol.* 1: 191-200.

EcoReference No.: 71036
Chemical of Concern: PMR,PSM,FNV; Habitat: T; Effect Codes: REP,GRO; Rejection Code: TARGET(FNV,PSM).

261. Iftner, D. C. and Hall, F. R. (1983). Toxicities of Selected Synthetic Pyrethroids to Two Species of Phytophagous Mites. *J.Econ.Entomol.* 76: 687-689 .

EcoReference No.: 37227
Chemical of Concern: FNV,FYT,PMR,PSM; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(PSM,FNV,PMR).

262. Iftner, D. C., Hall, F. R., and Sturm, M. M. (1986). Effects of Residues of Fenvalerate and Permethrin on the Feeding Behaviour of Tetranychus urticae (Koch). *Pestic.Sci.* 17: 242-248.

EcoReference No.: 71056
Chemical of Concern: PMR,PSM,FNV; Habitat: T; Effect Codes: REP,BEH; Rejection Code: TARGET(FNV,PSM).

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EcoReference No.: 96056; Habitat: T; Effect Codes: PHY,CEL; Rejection Code: NO COC(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: MLN,TDC,CTZ,EFV,PSM; Habitat: T; Rejection Code: EFFICACY(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: AT; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: Zineb,CBD,MZB,BMY,AZ,CBL,PSM,MLN,ES,CTZ,HTX,OTQ,PPG,DCF,IPD,CTN; Habitat: T; Effect Codes: POP,REP; Rejection Code: LITE EVAL CODED(CTN,MZB),OK(ALL CHEMS),OK TARGET(AZ,CBL,PSM,MLN,HTX,CTZ).

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EcoReference No.: 76934
Chemical of Concern: CPY,MLN,PSM,DZ,DMT,CBL,PIM,MOM,ES,IMC,TMX,BFT; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(MLN,BFT,DZ,CBL,MOM, DMT,CPY,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 2837
Chemical of Concern: Naled,CBL,CPY,DZ,MDT,DMT,ATM,ABT,PPX,PSM; Habitat: A; Effect Codes: BEH,POP; Rejection Code: NO ENDPOINT(ALL CHEMS).

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EcoReference No.: 20277
Chemical of Concern: Cu,Pb,Cd,Zn,PSM; Habitat: A; Effect Codes: POP; Rejection Code: NO CONTROL(ALL CHEMS).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 95028
Chemical of Concern: PSM,Cd,Cu,Zn; Habitat: A; Effect Codes: CEL; Rejection Code: NO ENDPOINT(Cu,PSM).

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EcoReference No.: 35278
Chemical of Concern: AZ,PPX,CBL,DLD,DDT,FMP,PSM,MOM,FNTH,ETN,PRN,DEM,DMT; Habitat: T; Effect Codes: ACC; Rejection Code: OK(Naled,FMP,DMT),NO ENDPOINT(AZ,CBL,PSM,MOM).

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EcoReference No.: 37328
Chemical of Concern: PSM,PPG,DEM,TCF,Naled,ACP,AZ,CBL,CBF,DDT,CYP,DZ,ES,EN,MLN,PRN,TDC,DMT,AND; Habitat: T; Effect Codes: MOR,BEH; Rejection Code: LITE EVAL CODED(Naled),NO CONTROL(ACP,AZ,CBL,CBF,CYP,DZ,MLN,DMT,PSM).

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EcoReference No.: 96102
Chemical of Concern: AZ,CBL,MOM,EFV,PSM; Habitat: T; Effect Codes: POP; Rejection Code: NO COC(TFZ),TARGET(AZ,CBL,EFV,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 92050
Chemical of Concern: AZ,EFV,PSM,ES,CBL,Captan,MZB,STRP,Maneb; Habitat: T; Effect Codes: POP,MOR; Rejection Code: TARGET(AZ,EFV,PSM,CBL),NO EFFECT(MZB,Maneb,Captan),NO COC(TFR).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 74883
Chemical of Concern: DMT,DDVP,FNT,PPHD,FNTH,TCF,PRIM,DZ,PRT,DEM,AZ,CPY,PSM,PHSL,MLN; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 6886
Chemical of Concern: PSM; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: CPY,PSM; Habitat: T; Rejection Code: TARGET(CPY,PSM).

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EcoReference No.: 76627
Chemical of Concern: CYP,PYT,PMR,FYT,PSM,MXC,MLN,FNTH,DDVP,DZ,CMPH; Habitat: T; Effect Codes: PHY; Rejection Code: NO ENDPOINT,CONTROL(ALL CHEMS).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 74117
Chemical of Concern: FNV,MOM,CPY,MP,AZ,TDC,PSM,PHSL; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(AZ,MOM,MP,CPY,TDC,FNV,PSM).

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EcoReference No.: 81104
Chemical of Concern: FNV,AZ,PFF,DZ,MP,DMT,CYF,BFT,ADC,MOM,PSM; Habitat: T; Effect Codes: MOR; Rejection Code: NO COC(DBAC),ENDPOINT(CYF),REVIEW(BFT),OK(PFF),TARGET(ADC,DZ,AZ,MOM,FNV,DMT,PSM,MP).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 74137
Chemical of Concern: CPYM,FNT,MP,FNTH,DZ,CPY,PRN,MLN,PSM,MDT,DDVP,TVP,CBL,BDC,PIRM,PIM,MOM; Habitat: T; Effect Codes: MOR; Rejection Code:

TARGET(MLN,DZ,CBL,MOM,MP,CPY,CPYM,PSM).

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EcoReference No.: 9375
Chemical of Concern: PSM; Habitat: A; Effect Codes: ACC; Rejection Code: NO ENDPOINT,NO CONTROL(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: AT; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 63742
Chemical of Concern: Naled,DDVP,ACP,PHSL,AZ,PSM,DMT,CPY,CPYM,MP,FNTH,FNT,DS,DZ,MLN; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(Naled,ACP,AZ,PSM,DMT,CPY,PYM,MP,DS,DZ,MLN).

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EcoReference No.: 93929
Chemical of Concern: DZ,CBL,PSMO,ETN,TBTO,PPHD,Ziram,DMT,ES,MLN; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(MLN,TBTO,CBL,Ziram,DMT,DZ,PSMO).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 67992
Chemical of Concern: MDT,AZ,PSM,MLN; Habitat: A; Effect Codes: MOR,ACC,GRO,BCM; Rejection Code: No TOXRES - unknown reason by Jarvinen//NO SPECIES(AZ,MDT,PSM,MLN).

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Chemical of Concern: PSM, DMT, MLN, DZ; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

327. Leonard, B. R., Clay, P. A., and Graves, J. B. (1993). Control of Boll Weevil in Cotton with Selected Insecticides, 1992. *Insectic.Acaric.Tests* 18: 243-244.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 95497
Chemical of Concern: SS,PSM,MLN,AZ; Habitat: T; Effect Codes: POP,PHY,MOR; Rejection Code: NO MIXTURE(PSM,MLN),OK(AZ).

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Beetle Control, 1997. *Arthropod Manag.Tests* 23: 371.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

332. Longtine, C. A., Suranyi, R. A., Radcliffe, E. B., and Ragsdale, D. W. (1997). Control of Colorado Potato Beetle, 1996c. *Arthropod Manag.Tests* 22: 156.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

333. Longtine, C. A., Suranyi, R. A., Radcliffe, E. B., and Ragsdale, D. W. (1999). Control of Colorado Potato Beetle, 1998. *Arthropod Manage.Tests* 24: 156-158 (E70).

EcoReference No.: 88111
Chemical of Concern: IMC,ABM,EFV,CYF,CBF,MP,PSM,CYT,ES; Habitat: T; Effect Codes: POP; Rejection Code: TARGET(MP,EFV,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 96678
Chemical of Concern: FNTH,PSM; Habitat: T; Effect Codes: POP; Rejection Code: NO ENDPOINT(PSM).

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EcoReference No.: 96688
Chemical of Concern: PSM,CPY,CMPH; Habitat: T; Effect Codes: POP,PHY; Rejection Code: NO ENDPOINT(PSM,CPY).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: NO FATE(PSM).

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EcoReference No.: 51714
Chemical of Concern: ABT,ATN,AZ,CBL,CBF,DZ,DDVP,DCTP,DMT,CPY,PSM,MLO,MLN,Naled,PPHD,DDT,PPX,PYR,TMT,TCF; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS),TARGET(ATN,AZ,CBL,DZ,DMT,CPY,PSM,MLN,Naled,TMT).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 96676
Chemical of Concern: ES,PPHD,DMT,PSM; Habitat: T; Effect Codes: POP; Rejection Code: NO ENDPOINT(DMT,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 95495; Habitat: T; Effect Codes: PHY,GRO,POP; Rejection Code: NO COC(PSM).

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EcoReference No.: 91365
Chemical of Concern: DCF,PSM,Naled,OMT,PPG; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(OMT),TARGET(PSM,Naled,PPG).

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EcoReference No.: 96710; Habitat: T; Effect Codes: GRO,MOR,PHY,REP; Rejection Code: NO COC(PSM).

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EcoReference No.: 87462
Chemical of Concern: Ziram,MZB,MYC,DOD,Captan,BMY,TDF; Habitat: T; Effect Codes: PHY,POP; Rejection Code: NO COC(AZ,PSM),TARGET(MZB,Captan,Ziram,TDF).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: CBF,PSM; Habitat: T; Rejection Code: TARGET (CBF,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: CBF,PSM; Habitat: T; Rejection Code: TARGET (CBF,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 72642
Chemical of Concern: PSM,ETN,CBL,CMPH,CPY,DZ,DCTP; Habitat: T; Effect Codes: MOR; Rejection Code: NO DURATION(ALL CHEMS),NO COC(MTAS),TARGET(CPY,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 6797
Chemical of Concern:
EDT,RSM,SZ,24DXY,ACP,ACR,ADC,ATM,ATN,ATZ,AZ,BS,CaPS,Captan,CBF,CBL,CMPH,CQTC,CPY,CuS,DBN,DFZ,DMB,DMT,DOD,DPDP,DS,DU,DZ,FO,GYP,HCCH,HXZ,IGS,LNR,MBZ,MCPB,MDT,MLN,MLT,MOM,MP,MTL,NaN3,Naled,OYZ,PCP,PEB,PAQT,PRT,PSM,Folpet,PYN,CYT,DMM,EFS,NAA,NTP,PMR,PPB,TFN,WFN,RSM,RTN,ALSV,Se,DBAC,Zn,As,MTPN,DCB,MTAS,OXD,PEPPG,TBF,CPYM,FLU; Habitat: A; Effect Codes: MOR,PHY; Rejection Code: LITE EVAL CODED(MTAS,MTPN,DCB,DZ,IGS,ATZ,MTL,MLT,CBF,ADC,MOM,PPB,SZ,DMT,WFN,RTN,CuS, DOD,NaN3,DMB,RSM,CaPS,MCPB, NaPCP,PCP,AMSV,ALSV,PRT,ATM,CQTC,ATN,DBAC),OK(ALL CHEMS),NO

CONTROL(LNR,PSM,DS,FLU,OYZ,24DXY,DPDP,CPYM,CPY,PEPPG,MP,Naled,BS,OXD,Captan,MLN,HXZ,TBF).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 94884
Chemical of Concern: PSM; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT,NO CONTROL(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

360. McClanahan, R. J. (1975). Insecticides for Control of the Colorado Potato Beetle (Coleoptera, Chrysomelidae). *Can.Entomol.* 107: 561-565.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

361. Mccown, C. R., Hammond, A. M., Story, R. N., Murray, M. J., and Ring, D. (1998). Evaluation of Selected Soil Insecticides and Foliar Insecticides for Control of Banded Cucumber Beetle White Grub and Whiterfringed Beetle 1997. *Arthropod Manag.Tests* 23: 144-147.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

362. Mccown, C. R., Hammond, A. M., Story, R. N., Murray, M. J., and Ring, D. (1998). Evaluation of Selected Soil Insecticides and Foliar Insecticides for Control of Banded Cucumber Beetle Whitefringed Beetle White Grup and Sweetpotato Weevil, 1997. *Arthropod Manag.Tests* 23: 147-149.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 52052
Chemical of Concern: CBF,PPX,DZ,ES,CBL,MDT,PSM,CPY,MTM,DDT; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(DZ,CBL,MDT,PSM,CPY,MTM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 71115
Chemical of Concern: CPY,PMR,PSM; Habitat: T; Effect Codes: POP; Rejection Code: TARGET(PSM).

366. Menzies, D. R., Pree, D. J., and Fisher, R. W. (1980). Role of Pesticide and Dye Concentrations in the Visual Assessment of Pesticide Deposits as Related to Oriental Fruit Moth Control. *J.Econ.Entomol.* 73: 617-619.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 73149
Chemical of Concern: CBL,AZ,PSM,PRB,DU,PZM,AZX,MZB,TEZ,PAQT,GFS,PSM,TFZ; Habitat: T; Effect Codes: MOR; Rejection Code: LITE EVAL CODED(PZM),OK TARGET(CBL,AZ,PSM),OK(MZB).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

372. Miller, D. E., Shaw, F. R., and Smith, C. T. (1969). The Comparative Residual Life of Two Formulations of Imidan on Alfalfa. *J.Econ.Entomol.* 62: 720-721.

EcoReference No.: 96677
Chemical of Concern: PSM; Habitat: T; Effect Codes: ACC,GRO; Rejection Code: NO ENDPOINT,NO CONTROL(PSM).

373. Mistric, W. J. Jr. and Smith, F. D. (1970). Organophosphorus and Carbamate Insecticides as Substitutes for DDT in Controlling the Tobacco Flea Beetle on Flue-Cured Tobacco. *J.Econ.Entomol.* 63: 509-511.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

376. Moore, R. C. (1975). Chemical and Biological Control of Fruit Pests in Connecticut (1974). *Bull.Conn.Agric.Exp.Stn., New Haven* 751: 18 p.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

377. Morrow, E. A. and Grafius, E. J. (1986). Colorado Potato Beetle Control, 1985. *Insectic.Acaric.Tests* 11: 164-165 (224).

EcoReference No.: 88759
Chemical of Concern: ADC,DS,PRT,CYF,PMR,FNV,PSM; Habitat: T; Effect Codes: POP; Rejection Code: EFFICACY(ADC,DS,PRT,PMR,FNV,PSM).

378. Mount, G. A., Gahan, J. B., and Lofgren, C. S. (1967). Laboratory Tests with Promising Insecticides for Control of Adult and Larval Stable Flies. *J.Econ.Entomol.* 60: 1600-1602.

EcoReference No.: 96679
Chemical of Concern: PSM; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

381. Mulder, P. G. and Smith, M. W. (1997). Control of Pecan Weevil in Pecans, 1995. *Arthropod Manag.Tests* 22: 77.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

382. Mulder, P. G. Jr., Collins, J. K., and Smith, M. W. (1997). Control of Pecan Nut Casebearer and Fall Webworm in Pecans, 1996. *Arthropod Manag.Tests* 22: 78 (22D).

EcoReference No.: 91493
Chemical of Concern: BFT,TUZ,CYP,PSM,CPY,PSM; Habitat: T; Effect Codes: POP; Rejection Code: NO COC(MP),OK TARGET(BFT,CYP,CPY,PSM).

383. Mulla, M. S. (1964). Effectiveness and Residual Activity of New Compounds in Soil Against the Eye Gnat, Hippelates collusor. *J.Econ.Entomol.* 57: 873-878 .

EcoReference No.: 96675
Chemical of Concern: PSM; Habitat: T; Effect Codes: MOR,POP; Rejection Code: TARGET(PSM).

384. Mulla, M. S., Metcalf, R. L., and Isaak, L. W. (1962). Some New and Highly Effective Mosquito Larvicides. *Mosq.News* 22: 231-238.

EcoReference No.: 14106
Chemical of Concern: DMT,AZ,DZ,MLN,MP,PSM; Habitat: A; Effect Codes: POP,MOR; Rejection Code: NO CONTROL(DMT,AZ,DZ,MLN,MP,PSM).

385. Neilson, W. T. A., Rivard, I., Trottier, R., and Whitman, R. J. (1976). Pherocon AM Standard Traps and Their Use to Determine Spray Dates for Control of the Apple Maggot. *J.Econ.Entomol.* 69: 527-532.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

386. Nelson, E. E., Croft, B. A., Howitt, A. J., and Jones, A. L. (1973). Toxicity of Apple Orchard Pesticides to Agistemus Fleschneri. *Environ.Entomol.* 2: 219-222.

EcoReference No.: 38109
Chemical of Concern: Maneb,DINO,CBL,PHSL,ES,CAPTAN,DOD,BMY,PPHD,DZ,DMT,AZ,DEM; Habitat: T; Effect Codes: MOR,POP; Rejection Code: NO CONTROL, NO MIXTURE(Captan),TARGET(DMT,PSM),NO MIXTURE(Maneb), NO CONTROL(TARGET-CBL), NO MIXTURE, CONTROL(TARGET-DZ,AZ).

387. Nettleton, W. A., Hain, F. P., and Monroe, R. J. (1978). Field Evaluation of Acaricides for Control of Oligonychus ununguis in Fraser Fir Plantations. *J.Econ.Entomol.* 71: 113-114.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

389. Niemczyk, H. D. and Flessel, J. K. (1975). Contact Toxicity of 8 Insecticides to Adult Bathyplectes curculionis, a Parasite of Alfalfa Weevil Larvae. *J.Econ.Entomol.* 68: 585-586.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

390. Nigam, P. C. (1975). Summary of Contact, Stomach and Residual Toxicity of Insecticides Against Forest Insect Pests During, 1974. *Inf.Rep.CC-X, Chem.Control Res.Inst., Ottawa* 100: 10 p.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

391. Nigam, P. C. (1975). Summary of Laboratory Evaluations of Insecticides Against Various Species of Forest Insect Pests During, 1975. *Inf.Rep.CC-X-124, Chem.Control Res.Inst., Ottawa* 9 p.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

392. Nigg, H. N., Simpson, S. E., Schumann, R. A., and Fraser, S. (2004). Toxicity of Pesticides to Adult Diaprepes abbreviatus L. (Coleoptera: Curculionidae). *J.Entomol.Sci.* 39: 654-669.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

393. Nishiuchi, Y. (1972). Toxicity of Pesticides to Some Water Organisms. *Bull.Agric.Chem.Insp.Stn.(Noyaku Kensasho Hokoku)* 12: 122-128 (JPN) (ENG TRANSL).

EcoReference No.: 10258
Chemical of Concern: 3CE,AC,AMTL,AMTR,AND,As,ATZ,BMC,BS,Captan,CBL,CPA,CPY,CTN,Cu,DBN,DCPA,DDT,DDVP,DLD,DMB,DMT,DPA,DSMA,DU,DZ,EDB,EDC,EN,EPTC,ES,ETN,Fe,FLAC,FML,FNT,FNTH,HCCH,Hg,HPT,LNR,MCA,MCPB,MCPP1,MDT,MLN,MOM,MP,MTAS,NALED,Ni,NTCN,OPHP,Pb,PCB,PCP,PCZ,PEB,PHMD,PHSL,PHTH,PMT,PNB,PPX,PPZ,PRN,PSM,PYN,SFL,SID,STREP,SZ,TBC,TFN,THM,TPE,TPH,TPM,TRN,Zn; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS)//NO RESIDUE.

394. Nishiuchi, Y. and Asano, K. (1981). Comparison of Pesticide Susceptibility of Colored Carp with Japanese Common Carp. *Bull.Agric.Chem.Insp.Stn.(Noyaku Kensasho Hokoku)* 21: 61-63 (JPN) (ENG ABS).

EcoReference No.: 15570
Chemical of Concern: PSM,ETN,DZ,NaPCP,FNT,MLN,CBL; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN,NO CONTROL(ALL CHEMS).

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EcoReference No.: 6954
Chemical of Concern: ACP,ACR,ATZ,BMC,BT,Captan,CPY,CTN,Cu,CuOH,CuS,DMT,DU,DZ,Folpet,HCCH,LNR,MAL,MDT,MLN,MOM,PCP,PEB,PHMD,PMT,PNB,PPG,PQT,PSM,QOC,TBC,TFN,RTN,CuCl,PPZ,Zn,Ni,As,DCB,CPYM; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(LNR,PSM,CPYM,CPY,DMT,MLN,BMC,CTN,QOC,Captan,Folpet,ATZ),OK(ALL CHEMS).

396. Nishiuchi, Y. and Hashimoto, Y. (1967). Toxicity of Pesticide Ingredients to Some Fresh Water Organisms. *Sci.Pest Control (Botyu-Kagaku)* 32: 5-11 (JPN) (ENG ABS) (Author Communication Used).

EcoReference No.: 15192
Chemical of Concern: ATZ,Captan,CBL,CTN,DBN,DMB,DMT,DU,DZ,HCCH,LNR,MLN,MP,PMT,PSM,SZ,24DXY,MCPB,NaPCP,PPZ,ZIRAM,PRN,ETN,DDT,DLD,MCPA; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(LNR,PSM,MLN,Captan,CTN,MP),OK(ALL CHEMS).

397. Noetzel, D. and Miller, J. (1994). Control of Resistant Colorado Potato Beetle in Early Market Potato Big Lake Mn, 1993. *Arthropod Manag.Tests* 19: 115-116.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

398. Noetzel, D. and Watrin, C. (1993). Control of Resistant Colorado Potato Beetle Big Lake Minnesota, 1992. *Insectic.Acaric.Tests* 18: 148.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

399. Noetzel, D., Watrin, C., and Olson, K. (1993). Resistant Colorado Potato Beetle Control Osseo Minnesota, 1992 . *Insectic.Acaric.Tests* 18: 148-149.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: CAP,Captan,Folpet,PSM; Habitat: T; Effect Codes: ACC; Rejection Code: NO ENDPOINT,NO CONTROL(CAP,Captan,Folpet,PSM) .

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Chemical of Concern: MOM,FNV,DM,AZ,PRM,PSM,FNT,PPX,TCF,MLN,CPYM,CPY,DMT; Habitat: T; Effect Codes: MOR; Rejection Code: OK TARGET(DMT,MLN,AZ),TARGET(MOM,FNV,CPYM,PSM).

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Chemical of Concern: PSM,AZ,CPY,FNV,PMR; Habitat: T; Effect Codes: MOR,ACC; Rejection Code: OK TARGET(PSM,AZ,CPY,FNV,PMR).

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Chemical of Concern: MOM,PFF,CBF,AZ,PSM,EPRN,MLN,Naled,FNT,CPY,ACP,MTM,MDT,CBL,CYP; Habitat: T; Effect Codes: POP,MOR,GRO; Rejection Code: LITE EVAL CODED(MOM,MLN,MTM,CBL,ACP,AZ,Naled,CPY),OK(CBF),TARGET(PSM,CYP,MDT).

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Chemical of Concern: PPHD,DCTP,CBL,PRN,MP,PSM,DZ,CBL,CBF,ADC,MTM,Naled,DS,TBF; Habitat: T; Effect Codes: GRO; Rejection Code: NO ENDPOINT(ALL CHEMS).

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Chemical of Concern: AZ,EFV,MDT,CPY,PSM,HTX; Habitat: T; Effect Codes: POP; Rejection Code: OK TARGET(AZ,EFV),NO MIXTURE(TARGET-CPY,PSM,HTX).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 90645
Chemical of Concern: MLN,SS,PSM; Habitat: T; Effect Codes: MOR,POP; Rejection Code: OK TARGET(MLN,PSM).

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EcoReference No.: 63489
Chemical of Concern: CYR,PSM; Habitat: T; Rejection Code: TARGET(PSM).

482. Schaber, B. D., Charnetski, W. A., and Entz, T. (1990). Early and Late-Season Insecticide Applications in Seed Alfalfa: Impact on Pest Species and Yield. *J.Entomol.Sci.* 25: 548-558.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

483. Schafer, E. W. (1972). Acute Oral Toxicity of 369 Pesticidal, Pharmaceutical and Other Chemicals to Wild Birds. *Toxicol.Appl.Pharmacol.* 21: 315-330.

EcoReference No.: 38655
Chemical of Concern: Ziram,AN,BZO,BZC,Captan,THM,ZINEB,CYT,SFL,MAL,MRX,ACL,MLN,ABT,CBZ,MCB,CBL,CMPH,HCCH,EN,AND,ES,NP,TCF,CPY,DDVP,PPHD,DCTP,DS,PRT,DMT,AZ,PSM,ETN,DEM,DZ,FNTH,MP,NCTN; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS),NO COC(4AP).

484. Schafer, E. W. Jr., Bowles, W. A. Jr., and Hurlbut, J. (1983). The Acute Oral Toxicity, Repellency, and Hazard Potential of 998 Chemicals to One or More Species of Wild and Domestic Birds. *Arch.Environ.Contam.Toxicol.* 12: 355-382.

EcoReference No.: 38656
Chemical of Concern: RSM,TBT,CBL,EN,PAH,ACL,PL,ES,AND,DZ,CPY,Sb,Pb,Zn,Cu,Tl,DLD,HCCH,APAC,4AP,DNB,DS,PSM,TBF; Habitat: T; Effect Codes: MOR; Rejection Code: NO ACUTE (TRV)//NO CONTROL(ALL CHEMS).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

487. Schlinke, J. C. and Palmer, J. S. (1972). Toxicity of Two Organophosphorus Insecticides in Stressed Cattle. *J.Econ.Entomol.* 65: 64-66.

EcoReference No.: 38678
Chemical of Concern: PSM; Habitat: T; Effect Codes: PHY,MOR,BCM; Rejection Code: NO CONTROL, ENDPOINT(PSM).

488. Schuster, D. J. (1998). Control of Armyworms and Pepper Weevil on Bell Pepper Spring, 1997. *Arthropod Manag.Tests* 23: 117-118.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 91309
Chemical of Concern: ETN,CBL,DDVP,TCF,PSM,Naled,MLN; Habitat: T; Effect Codes: MOR,BEH; Rejection Code: OK TARGET(CBL,PSM,MLN,Naled).

490. Schwinghammer, K. A., Ballard, E. M., and Knapp, F. W. (1985). Comparative Toxicity of Ten Insecticides Against the Cat Flea Ctenocephalides Felis Siphonaptera pulicidae. *J.Med.Entomol.* 22: 512-514.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

491. Sewell, G. H. and Storch, R. H. (1993). Irish Potato Control of Colorado Potato Beetle 1992. *Insectic.Acaric.Tests* 18: 152-153.

Chemical of Concern: PPB,AZD,PSM,CYR; Habitat: T; Rejection Code: TARGET(AZD,PSM).

492. Sewell, G. H. and Storch, R. H. (1996). Irish Potato Control of Colorado Potato Beetle, 1995. *Arthropod Manag.Tests* 21: 158-159.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

493. Shea, P. J., Johnson, D. R., and Nakamoto, R. (1984). Effects of Five Insecticides on Two Primary Parasites of the Western Spruce Budworm, Choristoneura occidentalis (Freeman) (Lepidoptera: Tortricidae). *Prot.Ecol.* 7: 259-268.

Chemical of Concern: MOM,PSM; Habitat: T; Rejection Code: TARGET(MOM,PSM).

494. Shearer, P. W., Atanassov, A., and Rucker, A. (2006). Plum Curculio Control, 2005. *Arthropod Manag.Tests* 31: B5.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

495. Shearer, P. W., Atanassov, A., and Rucker, A. (2006). Seasonal Oriental Fruit Moth Control with DPX-E2Y45 35WG, 2004. *Arthropod Manag.Tests* 31: B10.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

496. Shearer, P. W., Atanassov, A., and Rucker, A. (2006). Seasonal Oriental Fruit Moth Control with DPX-E2Y45 35WG, 2005. *Arthropod Manag.Tests* 31: B11.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

497. Shearer, P. W. and Rucker, A. (2005). Plum Curculio Control, 2004. *Arthropod Manag.Tests* 30: B3.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

498. Shearer, P. W. and Rucker, A. (2005). Seasonal Oriental Fruit Moth Control, 2004. *Arthropod Manag.Tests* 30: B6.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 96636
Chemical of Concern: DDVP,DCTP,PSMO; Habitat: T; Effect Codes: BCM; Rejection Code: NO MODELING(PSMO).

500. Shellenberger, T. E., Newell, G. W., Bridgman, R. M., and Barbaccia, J. (1965). A Subacute Toxicity Study of N-(2-Mercaptoethyl) Benzenesulfonamide S-(O,O-Diisopropyl Phosphorodithioate) and Phthalimidomethyl-O,O-Dimethyl Phosphorodithioate with Japanese Quail. *Toxicol.Appl.Pharmacol.* 7: 550-558.

EcoReference No.: 94387
Chemical of Concern: BS,PSM; Habitat: T; Effect Codes: GRO,BEH,REP,BCM; Rejection Code: NO ENDPOINT(BS,PSM).

501. Shields, E. J., Sher, R. B., and Taylor, P. S. (1991). Insecticide Efficacy in Alfalfa, 1989. *Insectic.Acaric.Tests* 16: 138-139 (23F).

EcoReference No.: 90653
Chemical of Concern: CYF,MXC,PMR,EFV,DMT,CBF,PSM,CPY,MLN,MP; Habitat: T; Effect Codes: POP; Rejection Code: OK TARGET(ALL CHEMS),TARGET(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

503. Singh, H. and Haq, A. (1968). Insecticides for the Control of Sugarcane Whitefly in Uttar Pradesh. *Indian Sugar* 18: 457-459.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

504. Sirota, J. M., Grafius, E., Boylan-Pett, W., Bommarito, M., Ferrari, B., Kolarik, P., Scriber, B., and Tindall, M. (1993). Colorado Potato Beetle Control, 1992. *Insectic.Acaric.Tests* 18: 156-159.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

507. Smith, T. P. and Hammond, A. M. (2006). Comparative Susceptibility of Sweetpotato Weevil (Coleoptera: Brentidae) to Selected Insecticides. *J.Econ.Entomol.* 99: 2024-2029.

EcoReference No.: 88219
Chemical of Concern: MP,BFT,CYF,CBL,PSM; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(MP,PSM).

508. Sorensen, K. A. and Holloway, C. W. (1996). Colorado Potato Beetle Control With Insecticides Pasquotank Co. N.c., 1995. *Arthropod Manag.Tests* 21: 159-160.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

509. Sorensen, K. A. and Holloway, C. W. (1996). Eggplant Insect Control Johnston Co. N.c., 1995. *Arthropod Manag.Tests* 21: 116-117.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

510. Sorensen, K. A. and Wade-Holloway, C. (1994). Colorado Potato Beetle and European Corn Borer Control with Insecticides Pasquotank Co. NC, 1993. *In: A.K.Burditt Jr, (Ed.), Insecticide and Acaricide Tests, Entomological Society of America, Lanham, MD* 19: 131-133.

Chemical of Concern: CYR,PSM; Habitat: T; Rejection Code: EFFICACY(CYR), TARGET (PSM).

511. Speese, J. (1997). Foliar and Root Swell Insecticide Applications to Control Soil Insects in Sweetpotatoes, 1996. *Arthropod Manag.Tests* 22: 171-172 .

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

517. Stanley, R. L., Randolph, N. M., and Teetes, G. L. (1970). Control of the Clover Head Weevil on Crimson Clover. *J.Econ.Entomol.* 63: 256-258.

EcoReference No.: 96680
Chemical of Concern: Naled,MLN,CBL,MP,AZ,PSM,PRN,DZ; Habitat: T; Effect Codes: POP; Rejection Code: EFFICACY(Naled,MLN,CBL,MP,AZ,PSM,DZ).

518. Stansly, P. A. and Conner, J. M. (1998). Impact of Insecticides and an Entomophagous Fungus on Pepper Weevil Melon Thrips Broad Mite and Minute Pirate Bug in Hog Pepper, 1997. *Arthropod Manag.Tests* 23: 120-122.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

519. Stephens, G. R. (1986). Control of Spruce Gall Midge in Southern CT 1983. *Insectic.Acaric.Tests* 11: 431 (No. 571).

EcoReference No.: 87894
Chemical of Concern: DZ,DEM,DMT,ACP,PSM,CBL,ES; Habitat: T; Effect Codes: POP; Rejection Code: OK(ALL CHEMS),OK TARGET(DZ,ACP,CBL,DMT,PSM) .

520. Sterk, G., Hassan, S. A., Baillod, M., Bakker, F., Bigler, F., Blumel, S., Bogenschutz, H., Boller, E., Bromand, B., Brun, J., Calis, J. N. M., Coremans-Pelseneer, J., Duso, C., Garrido, A., Grove, A., Heimbach, U., Hokkanen, H., Jacas, J., Lewis, G., Moreth, L., Polgar, L., Roversti, L., Samsoe-Petersen, L., Sauphanor, B., Schaub, L., Staubli, A., Tuset, J. J., Vainio, A., Van de Veire, M., Viggiani, G., Vinuela, E., and Vogt, H. (1999). Results of the Seventh Joint Pesticide Testing Programme Carried out by the IOBC/WPRS-Working Group 'Pesticides and Beneficial Organisms'. *Biocontrol* 44: 99-117.

EcoReference No.: 72736
Chemical of Concern: CYF,PSM; Habitat: T; Effect Codes: POP,MOR; Rejection Code: TARGET(CYF,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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squamulata (Coleoptera: Chrysomelidae), in Southern California Table Grapes. *J.Econ.Entomol.* 77: 1327-1334.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

524. Stevens, P. S., Steven, D., Malcolm, C., and Holland, P. T. (1993). Reducing Pesticide Residues on Kiwifruit. *Proc.N.Z.Plant Prot.Conf.* 46th: 62-66.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

525. Stevenson, A. B. (1984). Chemical Control of Carrot Weevil, Listronotus oregonensis (Coleoptera: Curculionidae), and Damage to Carrots in the Holland Marsh, Ontario. *In: Proc.Entomol.Soc.of Ontario* 114: 101-103.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

527. Stoltz, R. L. and Matteson, N. A. (1994). Colorado Potato Beetle Control with Foliar Sprays of Conventional and Biorational Insecticides, 1993. *Arthropod Manag.Tests* 19: 140.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

528. Story, R. N., Hammond, A., and Murray, M. J. (1997). Evaluation of Selected Foliar Insecticides on Sweetpotato Weevil Banded Cucumber Beetle and White Grub on Sweetpotatoes, 1995. *Arthropod Manag.Tests* 22: 172.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

529. Story, R. N. and Hammond, A. M. (1999). Efficacy of Foliar Applied Insecticides for Control of Banded Cucumber Beetle and June Beetles on Sweet Potato, 1998. *Arthropod Manag.Tests* 24: 176.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

530. Story, R. N., Hammond, A. M., and Murray, M. J. (1998). Evaluation of Selected Foliar Insecticides for Control of Sweetpotato Weevil and Banded Cucumber Beetle on Sweetpotatoes, 1997. *Arthropod Manag.Tests* 23: 150-151.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

532. Straub, R. W. (1998). Evaluation of Insecticides Against Fruit-Feeding Insects on Apple, 1997. *Arthropod Manag.Tests* 23: 34-35.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

535. Suckling, D. M. and Khoo, J. (1990). Cross-Resistance in the Lightbrown Apple Moth Epiphyas postvittana (Lepidoptera: Tortricidae). *N.Z.J.Crop Hortic.Sci.* 18: 173-180.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

536. Sukhoruchenko, G. I. and Tolstova, Y. S. (1981). Contemporary Insectoacaricides and the Resources of Their Selectivity for Beneficial Arthropods. *Entomol.Obozr.* 60: 745-753.

EcoReference No.: 39001
Chemical of Concern: CPY,DDT,DCF,PSM,DMT,PHSL,CBL; Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(ALL CHEMS).

537. Summers, C. G. (1975). Efficacy of Insecticides and Dosage Rates Applied for Control of the Egyptian Alfalfa Weevil and Pea Aphid. *J.Econ.Entomol.* 68: 864-866.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

538. Sun, F. (1987). Evaluating Acute Toxicity of Pesticides to Aquatic Organisms: Carp, Mosquito Fish and Daphnids. *Plant Prot.Bull.(Chih Wu Pao Hu Hsueh Hui Hui K'an)* 29: 385-396 (CHI) (ENG ABS).

EcoReference No.: 13451
Chemical of Concern: BT,CBF,EP,GYP,PSM,TBC,CYP,DM,FPP,FVL,PMR,TMT,24DXY,ATN,FNF,PAQT,MZB,Maneb,BTC,TBC,FNV,Zn; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN(BT,CBF,EP,GYP,PSM,TBC,CYP,DM,FPP,FVL,PMR,TMT,24DXY,ATN,FNF,PAQT,MZB,Maneb,BTC,TBC,FNV,Zn),NO CONTROL(PSM).

539. Suranyi, R. A., Longtine, C. A., Ragsdale, D. W., and Radcliffe, E. B. (1998). Control of Potato Leafhopper on Potatoes Using Reduced Rates of Insecticides, 1997. *Arthropod Manag.Tests* 23: 137 (E81).

EcoReference No.: 90628
Chemical of Concern: MLN,EFV,DMT,PSM,ES; Habitat: T; Effect Codes: POP; Rejection Code: OK TARGET(ALL CHEMS),TARGET(PSM).

540. Suranyi, R. A., Longtine, C. A., Ragsdale, D. W., Radcliffe, E. B., and Munyaneza, J. (1999). Control of Colorado Potato Beetle,1998A. *Arthopod Manage.Tests* 24: 169-170 (E81).

EcoReference No.: 88293
Chemical of Concern: IMC,ABM,ES,EFV,PSM,CBF; Habitat: T; Effect Codes: POP; Rejection Code: OK(CBF),TARGET(EFV,PSM).

541. Suranyi, R. A., Longtine, C. A., Ragsdale, D. W., Radcliffe, E. B., and Munyaneza, J. (1999). Control of Colorado Potato Beetle, 1998B. *Arthropod Manage.Tests* 24: 169-170 (E82).

EcoReference No.: 88281
Chemical of Concern: IMC,ABM,ES,EFV,PSM,CBF; Habitat: T; Effect Codes: POP; Rejection Code: OK(CBF),TARGET(EFV,PSM).

542. Svobodova, Z. (1980). Acute Toxicity of Pesticides to Fish (Akutni Toxicita Pesticidu pro Ryby). *Agrochemia* 20: 328-332 (CZE) (Publ in Part As 5607).

EcoReference No.: 5343
Chemical of Concern: ATZ,PSM,CuS; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(PSM),NO FOREIGN.

543. Svobodova, Z. (1975). Changes in the Red Blood Picture of the Carp intoxicated with Organo-Phosphate Pesticides. *Acta Vet.Brno* 44(1-2): 49-52.

EcoReference No.: 8220
Chemical of Concern: PSM; Habitat: A; Effect Codes: BCM; Rejection Code: NO ENDPOINT(PSM).

544. Svobodova, Z., Machova, J., Faina, R., Kocova, A., and Kunce, P. (1986). Acute Toxicity of Selected Pesticides to Aquatic Organisms. *Bul.Vyzk.Ustav Ryb.Hydrobiol.Vodnany* 1: 8-20 (CZE) (ENG ABS).

EcoReference No.: 941
Chemical of Concern: PSM; Habitat: A; Effect Codes: MOR; Rejection Code: NO CONTROL(PSM).

545. Szabo, K. and Menn, J. J. (1969). Synthesis and Biological Properties of Insecticidal S-(Phthalimidomethyl) O-Alkyl Alkylphosphonodithioates and Thiolates. *J.Agric.Food Chem.* 17: 863-868.

Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

546. Takeuchi, S., Matsuda, T., Kobayashi, S., Takahashi, T., and Kojima, H. (2006). In Vitro Screening of 200 Pesticides for Agonistic Activity via Mouse Peroxisome Proliferator-Activated Receptor (PPAR)alpha and PPARgamma and Quantitative Analysis of In Vivo Induction Pathway. *Toxicol.Appl.Pharmacol.* 217: 235-244.

EcoReference No.: 89206
Chemical of Concern: AND,HCCH,Captan,CHD,CTN,DDT,DBN,DCF,DLD,ES,EN,Folpet,HPT,MXC,PCP,ACF,ACFM,DFPM,FZFB,OXF,ACP,ANL,CPY,CPYM,DZ,DDVP,DMT,DS,ETN,FMP,FNT,FNTH,GYP,IFP,MLN,MTM,MDT,MP,PRN,PRT,PHSL,PSM,PIRM,PFF,TBO,TVP,TCM,TCF,CYF,CYH,CYP,DM,EFX,FNV,FYT,FVL,PMR,PYN,TFT,TLM,BDC,BMY,CBL,CBD,CBF,CPP,MCB,MOM,MLT,OML,PHMD,PIM,TBC,THM,ACR,ASM,FTL,MLX,MTL,PZM,ANZ,ATZ,MBZ,PRO,PMT,SZ,BSF,DFZ,DU,LNR,PPN,AMZ,BPH,BTN,DZM,EXQ,FRM,FZN,ILL,IMC,IPD,MCPA,24DXY,PAQT,PDM,PCZ,SXD,TPM,TDF,TFZ,TFN,TFR,VCZ; Habitat: T; Effect Codes: BCM,CEL; Rejection Code: NO IN VITRO(ALL CHEMS),OK(ILL,PYN,DFPM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 73594
Chemical of Concern: MOM,PMR,FVT,DM,AZ,PSM; Habitat: T; Effect Codes: MOR; Rejection Code: OK TARGET(AZ),TARGET(MOM,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY(PSM).

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EcoReference No.: 6880
Chemical of Concern: MDT,PSM,Captan; Habitat: A; Effect Codes: ACC; Rejection Code: NO CONTROL(PSM).

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EcoReference No.: 90591
Chemical of Concern: DDVP,FNTH,PSM; Habitat: A; Effect Codes: ACC; Rejection Code: NO CONTROL(PSM),NO COC(Captan).

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EcoReference No.: 39146
Chemical of Concern: Zineb,TXP,THM,PRT,CBL,PPHD,PRN,Nabam,PCB,MP,MXC,MLN,HCCH,PSM,HPT,AZ,Folpet,EN,DMT,DLD,AND,FNT,ATN,ATZ,DCTP, Habitat: T; Effect Codes: MOR; Rejection Code: NO CONTROL(CBL,MP,MLN,AZ,DMT,ATZ,24DXY,DZ,DS,THM,PSM).

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EcoReference No.: 96444
Chemical of Concern: CBL,MLN,PSM,IMC; Habitat: T; Effect Codes: MOR,POP; Rejection Code: TARGET(CBL,MLN,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 88276
Chemical of Concern: DMT,IMC,EFV,TUZ,AZ,PSM,DZ,CPY,MP,LCYT; Habitat: T; Effect Codes: POP; Rejection Code: TARGET(MP, DMT,EFV,CPY,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: MOM,PSM; Habitat: T; Rejection Code: TARGET(MOM,PSM).

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EcoReference No.: 79786
Chemical of Concern: PSM,CBL,DMT,CPY,MP,PMR,CYH; Habitat: T; Effect Codes: POP; Rejection Code: TARGET(CBL,MP,CPY,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PHSL,AZ,PSM,ES; Habitat: T; Effect Codes: MOR,POP; Rejection Code: TARGET(PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: CPY,PSM,CBL,AZ; Habitat: T; Effect Codes: MOR; Rejection Code: TARGET(CBL,AZ,CPY,PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: TARGET (PSM).

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EcoReference No.: 88211
Chemical of Concern: TMX,IMC,DM,MP,PSM,FPP,IDC; Habitat: T; Effect Codes: POP; Rejection Code: TARGET (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Manag.Tests 30 : B2.

Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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EcoReference No.: 8570
Chemical of Concern: ACP,Captan,CBL,CTN,DMT,DS,DZ,FO,HXZ,MDT,MLN,MOM,PPG,PSM,TET,CYP,FVL,PMR,TFR,Cu,CuS,PCP,IZP,MCPP1; Habitat: A; Effect Codes: MOR; Rejection Code: NO FOREIGN(ALL CHEMS),NO CONTROL(PSM,DS,CPYM,CPY,HXZ).

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Chemical of Concern: NYP,DZ,Captan,PSM; Habitat: A; Effect Codes: MOR; Rejection Code: NO REVIEW.

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EcoReference No.: 92021
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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chemical of Concern: PSM; Habitat: T; Rejection Code: EFFICACY (PSM).

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Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOX DATA.

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Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:660379
Chemical Abstracts Number: CAN 137:200451
Section Code: 17-3
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Standards (for pesticides of food and feed); Feed contamination; Food contamination (tolerance for pesticides of food and feed)
CAS Registry Numbers: 55-38-9 (Fenthion); 63-25-2 (Carbaryl); 78-48-8 (Tribufos); 137-26-8 (Thiram); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 563-12-2 (Ethion); 732-11-6 (Phosmet); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 10265-92-6 (Methamidophos); 13194-48-4 (Ethoprop); 15096-52-3 (Cryolite); 21087-64-9 (Metribuzin); 22248-79-9 (Tetrachlorvinphos); 23135-22-0 (Oxamyl); 29232-93-7 (Pirimiphos-Me); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 41198-08-7 (Profenofos); 55283-68-6 (Ethalfluralin); 60207-90-1 (Propiconazole); 69409-94-5 (Fluvalinate) Role: BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (tolerance for pesticides of food and feed) Certain tolerances are revoked for residues of the pesticides acephate, amitraz, carbaryl, chlorpyrifos, cryolite, disulfoton, ethalfluralin, ethion, ethoprop, fenthion, fluvalinate, methamidophos, metribuzin, oxamyl, phorate, phosalone, phosmet, pirimiphos-Me, profenofos, propiconazole, tetrachlorvinphos, thiram, and tribufos because these specific tolerances are either no longer needed or are assocd. with food or feed uses that are no longer registered in the United States. The regulatory actions in this document are part of the Agency's reregistration program under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and the tolerance reassessment requirements of the Federal Food, Drug, and Cosmetic Act (FFDCA) section 408(q), as amended by the Food Quality Protection Act (FQPA) of 1996. [on SciFinder (R)] 0097-6326 pesticide/ food/ feed/ tolerance

3. 1998). Animal drugs, feeds, and related products. *Federal Register* 63: 5254-5255.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 1998:120874

Chemical Abstracts Number: CAN 128:145219
Section Code: 63-2
Section Title: Pharmaceuticals
CA Section Cross-References: 17
Document Type: Journal
Language: written in English.
Index Terms: Drug delivery systems; Feed additives; Standards (stds. for drugs in feeds and pharmaceuticals)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Starbar GX-118; stds. for drugs in feeds and pharmaceuticals); 1401-69-0 (Tylosin); 31282-04-9 (Hygromycin B); 33401-94-4 (Pyrantel tartrate) Role: FFD (Food or feed use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (stds. for drugs in feeds and pharmaceuticals); 56-75-7 (Chloramphenicol); 64-75-5 (Tetracycline hydrochloride) Role: THU (Therapeutic use), BIOL (Biological study), USES (Uses) (stds. for drugs in feeds and pharmaceuticals) The Food and Drug Administration (FDA) is amending the animal drug regulations, under the Federal Food, Drug, and Cosmetic Act, to remove those portions reflecting approval of eight new animal drug applications (NADA's) for which the sponsors have requested withdrawal of approval. The NADA's provide for use of products which are no longer made or marketed: Hygromycin B Type A medicated article, Tylosin Type A medicated article, Chloramphenicol capsules, Tetracycline HCl capsules, Starbar GX-118 (phosmet, prolate) Topical, Pyrantel tartrate Type A medicated article, and Banminth (pyrantel pamoate) Type A medicated article. In a notice published elsewhere in this issue of the Federal Register, FDA is withdrawing approval of the NADA's. [on SciFinder (R)] 0097-6326 Banminth/ chloramphenicol/ hygromycin/ Starbar/ GX118/ std;/ pyrantel/ tetracycline/ tylosin/ std

4. 1997). Animal drugs, feeds, and related products; change of sponsor. *Federal Register* 62: 61624-61626.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:774048
Chemical Abstracts Number: CAN 128:79870
Section Code: 63-2
Section Title: Pharmaceuticals
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Drug delivery systems; Standards (stds. for veterinary drug in relation to sponsor)
CAS Registry Numbers: 50-03-3 (Hydrocortisone acetate); 50-23-7 (Hydrocortisone); 50-33-9 (Phenylbutazone); 51-60-5 (Neostigmine methylsulfate); 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 57-33-0 (Sodium pentobarbital); 97-23-4 (Dichlorophene); 108-88-3 (Toluene); 122-11-2 (Sulfadimethoxine); 321-55-1 (Haloxon); 562-10-7; 732-11-6; 1055-55-6 (Bunamidine hydrochloride); 1405-10-3 (Neomycin sulfate); 1405-20-5 (Polymyxin B sulfate); 1405-87-4 (Bacitracin); 1405-89-6 (Bacitracin zinc); 1642-54-2 (Diethylcarbamazine citrate); 1649-18-9 (Azaperone); 2078-54-8 (Propofol); 2971-90-6 (Clopidol); 3688-62-8; 3737-33-5 (Ethylisobutrazine hydrochloride); 4304-40-9 (Thenium closylate); 11054-70-9 (Lasalocid); 14538-56-8 (Piperazine phosphate); 14769-73-4 (Levamisole); 16595-80-5 (Levamisole hydrochloride); 18507-89-6 (Decoquinate); 22832-87-7 (Miconazole nitrate); 25875-50-7 (Robenidine hydrochloride); 26538-44-3 (Zeranol); 31431-39-7 (Mebendazole); 32093-35-9 (Levamisole phosphate); 39474-58-3 (Sulfadiazine-trimethoprim mixt.); 55750-06-6 (Imidocarb dipropionate) Role: THU (Therapeutic use), BIOL (Biological study), USES (Uses) (stds. for veterinary drug in relation to sponsor) The Food and Drug Administration (FDA) is amending the animal drug regulations, under the Federal Food, Drug and Cosmetic Act, to reflect the change of sponsor for 61 approved new animal drug applications (NADA's) from Mallinckrodt Veterinary, Inc., to Schering-Plough Animal Health Corp. [on SciFinder (R)] 0097-6326 veterinary/ drug/ sponsor/ std

5. 1994). Benomyl, trifluralin, mancozeb, and phosmet; revocation of certain food additive regulations. *Federal Register* 59: 33684-94.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:556098
Chemical Abstracts Number: CAN 121:156098
Section Code: 17-3
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Food (benomyl and mancozeb and phosmet and trifluralin of, stds. for); Raisin; Tomato paste, puree, and sauce (benomyl of, stds. for); Standards (for benomyl and mancozeb and phosmet and trifluralin, of food); Bran (mancozeb of, stds. for); Cottonseed oil Role: BIOL (Biological study) (phosmet of, stds. for); Essential oils Role: BIOL (Biological study) (peppermint, trifluralin of, stds. for); Essential oils Role: BIOL (Biological study) (spearmint, trifluralin of, stds. for)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: BIOL (Biological study) (of cottonseed oil, stds. for); 1582-09-8 (Trifluralin) Role: BIOL (Biological study) (of peppermint and spearmint oil, stds. for); 17804-35-2 (Benomyl) Role: BIOL (Biological study) (of raisins and processed tomato products, stds. for); 8018-01-7 (Mancozeb) Role: BIOL (Biological study) (of wheat bran, stds. for) The Environmental Protection Agency (EPA) is responding to objections and hearing and stay requests filed in response to a final rule revoking certain food additive regulations (tolerances) under the Federal Food, Drug, and Cosmetic Act. EPA is denying the objections and hearing and stay requests on tolerances for benomyl (raisins and processed tomato products), trifluralin (peppermint and spearmint oil), mancozeb (bran of wheat), and phosmet (cottonseed oil). The denial of the objections and hearing and stay requests effect the removal of corresponding sections from the Code of Federal Regulations. [on SciFinder (R)] 0097-6326 food/ benomyl/ trifluralin/ mancozeb/ phosmet

6. 2004). Emergency Planning and Community Right-to-Know Act; extremely hazardous substances list; deletion of phosmet. *Federal Register* 69: 68809-68815.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 2004:1153431
Chemical Abstracts Number: CAN 143:137886
Section Code: 59-5
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Health hazard; Standards (Emergency Planning and Community Right-to-Know Act; extremely hazardous substances list; deletion of phosmet)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (Emergency Planning and Community Right-to-Know Act; extremely hazardous substances list; deletion of phosmet) On Nov. 12, 2003, the Environmental Protection Agency proposed to delete phosmet from the list of extremely hazardous substances (EHS) issued under the Emergency Planning and Community Right-to-Know Act (EPCRA). Today, EPA is taking final action to delete phosmet from the EHS list. Facilities with phosmet on-site will no longer be required to comply with emergency planning and emergency release notification requirements. In addn., facilities handling phosmet will no longer have to file an emergency and hazardous chem. inventory form and Material Safety Data Sheet (MSDS) for phosmet with their

State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC), and local fire department, for amts. less than 10,000 lb. [on SciFinder (R)] 0097-6326 phosmet/ safety/ emergency/ planning

7. Final Report About the Percolation Study of Silicone Dc200 10 Cs Through Soil With Cover Letter Dated 04/20/94. *Epa/ots; doc #86940001398*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: This study determined the ability of polydimethyl siloxane fluid to percolate through 3 types of soil, a Belgium loamy soil and two soils provided by the Agricultural Ministry of Speyer, Germany (Speyer 2.1 and Speyer 2.2). About 5 grams of test substance was mixed in a 5 cm soil depth. Soil and silicone were added to a 450 mm polypropylene column in alternate layers and the column stoppered to avoid loss of volatile compounds. After a 24 hour adsorption period, elution with 0.005 molar aqueous calcium chloride was begun. The elution consisted of 6 two hour periods per day and the total amount eluted was 196.5 ml per day. The eluat
ABSTRACT: e was collected daily, extracted with methylisobutylketone and silicone contents determined with atomic absorption. After the 15 day leaching period the wet soil was extracted with toluene and silicone content analyzed for using atomic absorption. At the same time volatile silicones were analyzed for using atomic absorption. Results indicated that 0.16 to 0.28 percent of silicone percolated through the Speyer 2.1 soil column, 0.2 percent percolated through the Speyer 2.2 soil column and 0.3 to 0.47 percent through the loamy soil column. Some test substance was lost by evaporation although this amount was less than in the leachates.
ABSTRACT: In loamy soil the test substance was found in only the first 15 cm as compared to the Speyer soils where it was found in 20 to 25 cm depths. Recovery from loamy soil did not exceed 85 percent but was essentially complete in the Speyer soils.
KEYWORDS: DOW CORNING CORP
KEYWORDS: SILOXANES AND SILICONES, DI-ME (63148-62-9)
KEYWORDS: ENVIRONMENTAL FATE
KEYWORDS: TRANSPORT PROCESSES

8. 1980). Food additive regulation for the pesticide chemical N-(mercaptomethyl)phthalimide S-(O,O-dimethyl phosphorodithioate). *Federal Register* 45: 8979-80.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 1980:444130
Chemical Abstracts Number: CAN 93:44130
Section Code: 17-2
Section Title: Foods
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Cottonseed oil Role: BIOL (Biological study) ((mercaptomethyl)phthalimide di-Me phosphodithioate and O analogs of, stds. for); Standards (for (mercaptomethyl)phthalimide di-Me phosphodithioate and O analogs, of cottonseed oil)
CAS Registry Numbers: 732-11-6; 37640-79-2 Role: BIOL (Biological study) (of cottonseed oil, stds. for) A tolerance of 0.2 ppm is established under the Federal Food, Drug, and Cosmetic Act for residues of the insecticide N-(mercaptomethyl)phthalimide S-(O,O-di-Me phosphorodithioate) [732-11-6] and its O analog N-(mercaptoethyl)phthalimide S-(O,O-di-Me phosphorothioate) [37640-79-2] in the processed food cottonseed oil as a result of the application of the insecticide to growing cotton. [on SciFinder (R)] 0097-6326 phosphorodithioate/ insecticide/ cottonseed/ oil

9. Guide to California Water Right Appropriations. *Govt reports announcements & index (gra&i), issue 18, 2005*.

Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOX DATA.

ABSTRACT: The California Constitution says the state's water resources belong to all Californians. Any citizen may use water for beneficial purposes by possessing a water right. Some ri ghts come with ownership of land adjacent to streams, lakes, or ponds. Similarly, right to use water which percolates beneath the ground may be claimed by overlying landowners. Another kind of water right - an appropriative water right - may be established by obtaining a permit, or in the case of a small domestic use, a certificate of registration, which spells out the terms and conditions for taking and using water in California.
KEYWORDS: Water rights
KEYWORDS: *Water resources
KEYWORDS: *Natural resources management
KEYWORDS: *Permits
KEYWORDS: *Procedures
KEYWORDS: *California
KEYWORDS: Permit applications
KEYWORDS: Regulations
KEYWORDS: Requirements
KEYWORDS: Specifications
KEYWORDS: Registration
KEYWORDS: State Water Resources Control Board (SWRCB)

10. Leads From the Mmwr. Organophosphate Toxicity Associated With Flea-Dip Products--California. *Jama. 1988, jul 1; 260(1):22-3. [Jama : the journal of the american medical association]: JAMA.*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

MESH HEADINGS: Adult
MESH HEADINGS: Animals
MESH HEADINGS: Atropine/therapeutic use
MESH HEADINGS: California
MESH HEADINGS: Chlorpyrifos/poisoning
MESH HEADINGS: Female
MESH HEADINGS: Fleas
MESH HEADINGS: Humans
MESH HEADINGS: Information Services
MESH HEADINGS: Insecticides/*poisoning
MESH HEADINGS: Occupational Diseases/*chemically induced
MESH HEADINGS: Phosmet/poisoning
MESH HEADINGS: Population Surveillance
MESH HEADINGS: Protective Clothing
LANGUAGE: eng

11. 1992). Pesticide chemicals manufacturing category effluent limitations guidelines, pretreatment standards, and new source performance standards. *Federal Register* 57: 12560-601.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:475787
Chemical Abstracts Number: CAN 117:75787
Section Code: 60-6
Section Title: Waste Treatment and Disposal
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Standards (for pesticide wastewaters and wastewater treatment); Wastewater

(from pesticide manuf., stds. for); Wastewater treatment (in pesticide manuf., stds. for); Herbicides; Insecticides; Pesticides (wastewater compn. and treatment in manuf. of, stds. for); Pyrethrins and Pyrethroids Role: MSC (Miscellaneous), PREP (Preparation) (wastewater compn. and treatment in manuf. of, stds. for); Quaternary ammonium compounds Role: MSC (Miscellaneous), PREP (Preparation) (benzyl-C12-16-alkyldimethyl, chlorides, wastewater compn. and treatment in manuf. of, stds. for)
CAS Registry Numbers: 78-87-5; 95-57-8; 105-67-9; 120-83-2; 124-48-1; 156-60-5; 542-75-6 Role: OCCU (Occurrence) (of wastewater from pesticide manuf., stds. for); 56-23-5; 57-12-5 (Cyanide); 67-66-3; 71-43-2 (Benzene); 71-55-6; 74-87-3; 75-09-2; 75-25-2; 75-27-4; 75-35-4; 91-20-3 (Naphthalene); 100-41-4; 107-06-2; 108-88-3; 108-90-7; 108-95-2 (Phenol); 127-18-4; 7439-92-1 (Lead) Role: MSC (Miscellaneous) (of wastewater from pesticide manuf., stds. for); 7439-97-6DP (Mercury); 7440-31-5DP (Tin); 7440-38-2DP (Arsenic); 7440-43-9DP (Cadmium); 7440-50-8DP (Copper) Role: IMF (Industrial manufacture), PREP (Preparation) (pesticidal, wastewater from manuf. of, stds. for); 13684-56-5P Role: IMF (Industrial manufacture), PREP (Preparation) (wastewater compn. and treatment in manuf. of, stds. for); 51-03-6P (Piperonyl butoxide); 52-68-6P; 52-85-7P (Famphur); 55-38-9P (Fenthion); 56-38-2P (Parathion); 56-72-4P (Coumaphos); 58-36-6P (10,10'-Oxybisphenoxarsine); 58-89-9P (Lindane); 60-51-5P; 62-73-7P (Dichlorvos); 62-74-8P (Sodium monofluoroacetate); 63-25-2P (Carbaryl); 66-81-9P (Cycloheximide); 70-30-4P (Hexachlorophene); 72-20-8P (Endrin); 72-43-5P (Methoxychlor); 72-56-0P (Perthane); 74-83-9P (Methylbromide); 75-60-5DP (Cacodylic acid); 75-60-5P (Cacodylic acid); 75-99-0DP (Dalapon); 75-99-0P (Dalapon); 76-06-2P (Chloropicrin); 76-44-8P (Heptachlor); 78-34-2P (Dioxathion); 78-48-8P (DEF); 79-09-4P (Propionic acid); 81-81-2DP (Warfarin); 81-81-2P (Warfarin); 82-66-6P (Diphacinone); 82-68-8P (Pentachloronitrobenzene); 83-26-1P (Pindone); 83-79-4P (Rotenone); 85-34-7DP (Fenac); 85-34-7P (Fenac); 86-50-0P (Azinphos methyl); 87-86-5DP (Pentachlorophenol); 87-86-5P (Pentachlorophenol); 88-85-7P (Dinoseb); 91-53-2P (Ethoxyquin); 92-52-4P (Biphenyl); 92-84-2P (Phenothiazine); 93-65-2DP (MCPP); 93-65-2P (MCPP); 93-72-1DP; 93-72-1P; 93-76-5DP (2,4,5-T); 94-74-6DP (MCPA); 94-74-6P (MCPA); 94-75-7DP; 94-75-7P; 94-81-5DP (MCPB); 94-81-5P (MCPB); 94-82-6DP (2,4-DB); 94-82-6P (2,4-DB); 95-06-7P (Sulfallate); 95-50-1P (o-Dichlorobenzene); 96-12-8P (DBCP); 97-23-4P (Dichlorophene); 99-30-9P (Dichloran); 101-05-3P (Anilazine); 101-10-0DP; 101-10-0P (Cloprop); 101-21-3P; 106-46-7P; 106-93-4P (EDB); 112-56-1P (Lethane 384); 113-48-4P (MGK 264); 114-26-1P (Propoxur); 115-29-7P (Endosulfan); 115-32-2P; 115-90-2P (Fensulfothion); 116-06-3P (Aldicarb); 117-52-2DP; 117-52-2P (Coumafuryl); 117-80-6P (Dichlone); 120-36-5DP (Dichlorprop); 120-36-5P (Dichlorprop); 120-51-4P (Benzyl benzoate); 120-62-7P (Sulfoxide); 121-21-1P (Pyrethrin I); 121-29-9P (Pyrethrin II); 121-54-0P (Benzethonium chloride); 121-75-5P (Malathion); 122-14-5P (Fenitrothion); 122-34-9P (Simazine); 122-39-4P (Diphenylamine); 122-42-9P (Propham); 122-88-3DP; 122-88-3P; 123-33-1P (Maleic hydrazide); 124-58-3DP (Methylarsonic acid); 128-03-0P (Busan 85); 128-04-1P (Carbam S); 132-66-1DP (Naptalam); 132-66-1P (Naptalam); 133-06-2P (Captan); 133-07-3P (Folpet); 133-90-4DP (Chloramben); 133-90-4P (Chloramben); 134-31-6P; 134-62-3P (Deet); 136-45-8P (MGK 326); 137-26-8P (Thiram); 137-30-4P (Ziram); 137-42-8P (Vapam); 138-93-2P (Nabonate); 139-40-2P (Propazine); 140-41-0P (Monuron TCA); 141-66-2P (Dicrotophos); 142-59-6P (Nabam); 145-73-3DP (Endothall); 145-73-3P (Endothall); 148-79-8P (Thiabendazole); 150-50-5P (Merphos); 150-68-5P (Monuron); 155-04-4P; 298-00-0P (Parathion methyl); 298-02-2P (Phorate); 298-04-4P (Disulfoton); 299-84-3P (Ronnel); 300-76-5P (Naled); 301-12-2P (Oxydemeton methyl); 314-40-9P (Bromacil); 315-18-4P (Mexacarbate); 330-54-1P (Diuron); 330-55-2P (Linuron); 333-41-5P (Diazinon); 470-90-6P (Chlorfenvinphos); 502-55-6P (EXD); 510-15-6P (Chlorobenzilate); 533-74-4P (Dazomet); 534-52-1P (DNOC); 563-12-2P (Ethion); 569-64-2P (Malachite green); 575-89-3P (2,4,6-T); 584-79-2P (Allethrin); 640-19-7P (Fluoroacetamide); 709-98-8P; 732-11-6P (Phosmet); 741-58-2P; 759-94-4P (EPTC); 834-12-8P (Ametryn); 886-50-0P (Terbutryn); 944-22-9P (Fonofos); 950-37-8P (Methidathion); 957-51-7P (Diphenamid); 1071-83-6DP (Glyphosate); 1071-83-6P (Glyphosate); 1114-71-2P (Pebulate); 1134-23-2P (Cycloate); 1322-20-9P (Phenylphenol); 1399-80-0P (Hyamine 2389); 1563-66-2P (Carbofuran); 1582-09-8P (Trifluralin); 1610-18-0P (Prometon); 1689-84-5P (Bromoxynil); 1689-99-2P (Bromoxynil octanoate); 1861-32-1P (DCPA); 1861-40-1P (Benfluralin); 1897-45-6P (Chlorothalonil); 1912-24-9P (Atrazine); 1918-00-9DP (Dicamba); 1918-00-9P (Dicamba); 1918-

02-1DP (Picloram); 1918-02-1P (Picloram); 1918-16-7P (Propachlor); 1929-77-7P (Vernolate); 1940-43-8P (Tetrachlorophene); 1982-47-4P (Chloroxuron); 1982-49-6P (Siduron); 2008-41-5P (Butylate); 2032-59-9P (Aminocarb); 2032-65-7P (Methiocarb); 2104-64-5P (Santox); 2164-17-2P (Fluometuron); 2212-67-1P (Molinate); 2227-17-0P (Dienochlor); 2303-17-5P (S-(2,3,3-Trichloroallyl) diisopropylthiocarbamate); 2310-17-0P (Phosalone); 2312-35-8P; 2425-06-1P (Captafol); 2439-01-2P; 2439-10-3P (Dodine); 2439-99-8P (Glyphosine); 2491-38-5P (Busan 90); 2593-15-9P (Etridiazole); 2675-77-6P (Chloroneb); 2686-99-9P (Landrin-1); 2921-88-2P (Chlorpyrifos); 3244-90-4P (Aspon); 3383-96-8P (Temephos); 3566-10-7P (Diammonium ethylenebisdithiocarbamate); 3689-24-5P (Sulfotepp); 3691-35-8P (Chlorophacinone); 4080-31-3P (Dowicil 75); 4849-32-5P (Karbutilate); 5333-99-3P (N-1-Naphthylphthalimide); 5598-13-0P (Chlorpyrifos methyl); 5902-51-2P (Terbacil); 5915-41-3P (Terbutylazine); 6317-18-6P (Nalco D 2303); 7166-19-0P (Giv-gard); 7287-19-6P (Prometryn); 7696-12-0P (Tetramethrin); 7700-17-6P (Crotoxyphos); 7779-27-3P (Vancide TH); 7786-34-7P; 8001-35-2P (Toxaphene); 8018-01-7P (Mancozeb); 8065-48-3P (Demeton); 9006-42-2P (Metiram); 10265-92-6P (Methamidophos); 10380-28-6P (Bioquin); 10453-86-8P (Resmethrin); 12122-67-7P (Zineb); 12407-86-2P (Landrin); 12427-38-2P (Maneb); 12789-03-6P (Chlordane); 13071-79-9P (TErbufos); 13171-21-6P (Phosphamidon); 13194-48-4P (Ethoprop); 13590-97-1P (Metasol DGH); 13684-63-4P (Phenmedipham); 14484-64-1P (Ferbam); 15299-99-7P (Napropamide); 15339-36-3P (Manganous dimethyldithiocarbamate); 15972-60-8P (Alachlor); 16752-77-5P (Methomyl); 17804-35-2P (Benomyl); 18530-56-8P (Norea); 19044-88-3P (Oryzalin); 21087-64-9P (Metribuzin); 21564-17-0P (TCMTB); 21725-46-2P (Cyanazine); 22224-92-6P (Fenamiphos); 22248-79-9P (Stirofos); 22781-23-3P (Bendiocarb); 22936-75-0P (Belclene 310); 23135-22-0P (Oxamyl); 23184-66-9P (Butachlor); 23564-05-8P (Thiophanate methyl); 23564-06-9P (Thiophanate ethyl); 23950-58-5P (Pronamide); 24579-73-5P (Propamocarb); 25057-89-0P (Bentazon); 25155-18-4P (Methylbenzethonium chloride); 25167-83-3DP (Tetrachlorophenol); 25167-83-3P (Tetrachlorophenol); 25311-71-1P (Isofenphos); 25606-41-1P (Propamocarb hydrochloride); 26002-80-2P (Phenothrin); 26530-20-1P (Octhilinone); 26952-23-8P (Dichloropropene); 27314-13-2P (Norflurazon); 30388-01-3P; 30560-19-1P (Acephate); 31512-74-0P (Busan 77); 33089-61-1P (Amitraz); 33820-53-0P (Isopropalin); 34014-18-1P (Tebuthiuron); 34375-28-5P; 35367-38-5P (Diflubenzuron); 35400-43-2P (Bolstar); 37924-13-3P (Perfluidone); 38527-90-1P (Sulprofos oxon); 39300-45-3P (Dinocap); 40487-42-1P (Pendimethalin); 40596-69-8P (Methoprene); 41198-08-7P (Profenofos); 42576-02-3P (Bifenox); 42874-03-3P; 43121-43-3P (Triadimefon); 50594-66-6DP (Acifluorfen); 50594-66-6P (Acifluorfen); 51026-28-9P (Busan 40); 51218-45-2P; 51235-04-2P (Hexazinone); 51395-10-9P (Copper EDTA); 51630-58-1P (Fenvalerate); 52645-53-1P (Permethrin); 53404-19-6P; 53404-62-9P (Metasol J 26); 53780-34-0DP (Mefluidide); 53780-34-0P (Mefluidide); 54460-46-7P (Cycloprate); 55283-68-6P (Ethalfluralin); 55285-14-8P (Carbosulfan); 55406-53-6P; 60168-88-9P (Fenarimol); 81990-33-2P (KN methyl) Role: MSC (Miscellaneous), PREP (Preparation) (wastewater compn. and treatment in manuf. of, stds. for) Effluent limits, pretreatment stds. and performance stds. for new and existing facilities that manuf. pesticide active ingredients are proposed, under the Federal Clean Water Act. The manufacturers are categorized as those who make metalloorg. pesticide chems. (contg. As, Cd, Cu, or Hg) and those who make org. pesticide chems. (including organotin compds.). Tables are given for active ingredient (94) limitations (daily max. and monthly av.) under best available technol. economically achievable and pretreatment stds. for existing sources, new source performance stds. and pretreatment stds. for new sources, and anal. methods (for 94 compds.). Addnl., effluent limitations (daily max. and monthly av.)for priority pollutants are proposed. [on SciFinder (R)] 0097-6326 pesticide/ manuf/ wastewater;/ treatment/ wastewater/ pesticide

12. 1987). Pesticide tolerance for N-(mercaptomethyl) phthalimide S-(O,O-dimethyl phosphorodithioate). *Federal Register* 52: 48538-9.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1988:73924

Chemical Abstracts Number: CAN 108:73924
Section Code: 17-3
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Standards (for phosmet and oxygen analog, of pistachios); Pistachio (phosmet and phosmet oxygen analog of, stds. for)
CAS Registry Numbers: 732-11-6 (Phosmet); 3735-33-9 (Phosmet oxygen analog) Role: BIOL (Biological study) (of pistachios, stds. for) A tolerance of 0.1 ppm is established for residues of the insecticide N-(mercaptomethyl)phthalimide S-(O,O-di-Me phosphorodithioate) (phosmet) and its O analog in or on pistachios, under the Federal Food, Drug, and Cosmetic Act. [on SciFinder (R)] 0097-6326 pistachio/ phosmet/ insecticide

13. Re-Evaluation of Phosmet. *Govt reports announcements & index (gra&i), issue 05, 2005*.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: Proposed acceptability for continuing registration no. PACR2004-38.
ABSTRACT: French ed.: 104-07728/1.
ABSTRACT: Organophosphate active ingredients in pest control products have been subject to re-evaluation since 1999. As part of this initiative, this document summarizes the data & information reviewed regarding phosmet, a broad-spectrum organophosphate insecticide registered for use on a wide variety of crops as well as livestock. It includes information on the product's current registered uses; effects having relevance to human health, including those resulting from occupational & dietary exposure; environmental fate, impacts, & toxicology; and the value of phosmet in agricultural applications. The final sections include an outline of other issues considered in the assessment of phosmet; proposed regulatory actions, such as mitigation measures & use limitations; and additional data required from registrants of the product.
KEYWORDS: Regulations
KEYWORDS: *Insecticides
KEYWORDS: *Organophosphates
KEYWORDS: Health effects
KEYWORDS: Environmental aspects
KEYWORDS: Toxicology
KEYWORDS: Environmental toxicology
KEYWORDS: Foreign technology
KEYWORDS: *Phosmet

14. 1993). Revocation of food additive regulations for benomyl, mancozeb, phosmet, and trifluralin. *Federal Register* 58: 37862-7.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:7086
Chemical Abstracts Number: CAN 120:7086
Section Code: 17-3
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Raisin (benomyl and mancozeb of, stds. for); Tomato paste, puree, and sauce (benomyl of, stds. for); Standards (for benomyl and mancozeb and phosmet and trifluralin, of food); Bran (mancozeb of, stds. for); Cottonseed oil Role: BIOL (Biological study) (phosmet of, stds. for); Essential oils Role: BIOL (Biological study) (peppermint, trifluralin of, stds. for);

Essential oils Role: BIOL (Biological study) (spearmint, trifluralin of, stds. for)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: BIOL (Biological study) (of cottonseed oil, stds. for); 17804-35-2 (Benomyl) Role: BIOL (Biological study) (of raisins and processed tomato products, stds. for); 8018-01-7 (Mancozeb) Role: BIOL (Biological study) (of raisins and wheat bran, stds. for); 1582-09-8 (Trifluralin) Role: BIOL (Biological study) (of spearmint and peppermint oils, stds. for) Tolerances are revoked, under the Federal Food, Drug, and Cosmetic Act, for residues of benomyl in raisins and processed tomato products, mancozeb in raisins and wheat bran, phosmet in cottonseed oil, and trifluralin in spearmint oil and peppermint oil. [on SciFinder (R)] 0097-6326 food/ benomyl/ mancozeb/ phosmet/ trifluralin

15. 1998). Revocation of tolerances for canceled food uses. *Federal Register* 63: 57067-57077.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1998:743143
Chemical Abstracts Number: CAN 130:124054
Section Code: 17-3
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Standards (revocation; for pesticides of food); Food contamination (tolerances for pesticides of food)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 62-73-7 (DDVP); 63-25-2 (Carbaryl); 82-68-8 (Pentachloronitrobenzene); 90-15-3 (1-Naphthol); 91-53-2 (Ethoxyquin); 99-30-9 (2,6-Dichloro-4-nitroaniline); 101-21-3 (CIPC); 122-34-9 (Simazine); 122-42-9 (Isopropyl carbanilate); 132-66-1 (N-1-Naphthylphthalamic acid); 145-73-3 (Endothall); 300-76-5 (Naled); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 834-12-8 (Ametryn); 950-37-8 (Methidathion); 1194-65-6 (Dichlobenil); 1582-09-8 (Trifluralin); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 1929-82-4 (Nitrapyrin); 2032-65-7 (Methiocarb); 2164-17-2 (Fluometuron); 2593-15-9 (Etridiazole); 12122-67-7; 12427-38-2 (Maneb); 12544-84-2D; 13194-48-4 (Ethoprop); 14484-64-1 (Ferbam); 15096-52-3 (Cryolite); 17188-79-3D; 19666-30-9 (Oxadiazon); 22224-92-6; 43121-43-3 (1-(4-Chlorophenoxy)-3,3-dimethyl-1(1H-1,2,4-triazol-1-yl)-2-butanone); 49794-90-3 (2,4-Dinitro-6-octylphenyl crotonate); 49794-91-4 (2,6-Dinitro-4-octylphenyl crotonate); 51338-27-3 (Diclofop methyl); 55283-68-6 (Ethalfluralin) Role: BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (tolerances for pesticides of food) Tolerances for residues of the pesticides listed in the regulatory text are revoked. EPA is revoking these tolerances because EPA has canceled the food uses assocd. with them. The regulatory actions in this document are part of the Agency's reregistration program under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and the tolerance reassessment requirements of the Federal Food, Drug, and Cosmetic Act (FFDCA). [on SciFinder (R)] 0097-6326 pesticide/ tolerance/ food

16. 1983). Tolerances for pesticide chemicals in or on raw agricultural commodities; N-(mercaptomethyl)phthalimide S-(O,O-dimethyl phosphorodithioate). *Federal Register* 48: 37212-13.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 1983:538255
Chemical Abstracts Number: CAN 99:138255
Section Code: 17-3
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5

Document Type: Journal
Language: written in English.
Index Terms: Standards (for mercaptomethylphthalimide (di-Me phosphorodithioate) and oxygen analog, of tomatoes); Tomato (mercaptomethylphthalimide (di-Me phosphorodithioate) and oxygen analog of, stds. for)
CAS Registry Numbers: 732-11-6; 87237-47-6 Role: BIOL (Biological study) (of tomatoes, stds. for) A tolerance of 2.0 ppm is established under the Federal Food, Drug, and Cosmetic Act, for combined residues of the insecticide N-(mercaptomethyl)phthalimide S-(O,O-di-Me phosphorodithioate) [732-11-6] and its O analog [87237-47-6] in or on tomatoes. [on SciFinder (R)] 0097-6326 tomato/ phosphorodithioate/ insecticide

17. A, A. Castelo Branco N, Monteiro, M., Monteiro, E., Reis Ferreira, J., Alves-Pereira, M., Mealha, R., and Sabino, H. ([The Respiratory Epithelia in Vibroacoustic Disease.]. *Rev port pneumol. 2006, dec; 12(6 suppl 1):64-5. [Revista portuguesa de pneumologia]: Rev Port Pneumol*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

ABSTRACT: Introduction: Previous studies have shown that bronchos- copic examinations in patients with vibroacoustic disease (VAD) reveal the presence of small pink lesions (PL), bila- terally and near the spurs. The goal of this report is to des- cribe the histological features of the PL epithelium and its adjacent, apparently normal, epithelium. Methods: Volunteer VAD patients, with consented know- ledge and the approval of the Ethics Committee, received bronchoscopic examinations during which biopsies were removed from both the PL region and the adjacent, appa- rently normal, epithelium. Collected fragments were pro- cessed for histological analysis. Results: In spite of the visually vascular nature of the PL, biopsy procedure did not produce any hemorrhagic event. On the surface, cilia are histologically normal but are not very frequent, and constant stratification is seen in the epithelial cells. Deep within the epithelial cells, in the transition to the basal lamina, numerous thin small vessels were observed, and in the PL fragments, some of these small this vessels were ruptured. The more su- perficial epithelial cells showed a large reinforcement of cytoskeletal structures, as well as images of apopto- tic processes. In these cells, there is also a reinforce- ment of inter-cellular connections, namely a large num- ber of desmosomes. In ciliated cells, more that one axoneme surrounded by the same membrane was frequently observed. Degenerative changes of the basal bodies were also seen. Conclusions: The constant images epithelial statification and the accelerated rate of cellular turn-over, suggest the existence of an adaptation mechanism of the epithelium to prolonged situations of mechanical stress, i.e., LFN-expo- sure. If the mutagenic effect of LFN is taken into account (increased sister chromatid exchanges), then the abnormal frequency of squamous-cell carcinomas in VAD patients mi- ght not be so surprising. Key-words: Pink lesions, cilia, vessels, cytoskeleton, desmo- somes, squamous-cell carcinoma.
LANGUAGE: por
TRANSLIT/VERNAC TITLE: O epitélio respiratório na doença vibroacústica.

18. Abbasov, T. G., Karavaeva, T. M., and Makhno, P. M. (Embriotoksicheskoe Deistvie Ftalofosa. [Embryotoxicity of Phthalophos.]. *Veterinariya (moscow) (1): 62-63 1980*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: NON-ENGLISH.

ABSTRACT: PESTAB. The embryotoxicity of phthalophos (phosmet) was studied in pregnant rats subjected to intragastric or peroral administration of oil-base solution of phthalophos at 0.3, 1.5 and 5 mg/kg from day 1 of gestation. On day 20 of gestation rats were sacrificed and the number and weight of embryos was determined. Phthalophos at 5 mg/kg had a marked teratogenic and embryotoxic effect. Peroral administration of phthalophos at 1.5 mg/kg had a mild embryotoxic effect (the frequency of stillborns was 10%, compared with 4% in controls). Phthalophos at 0.3 mg/kg had no teratogenic or embryotoxic effect.
LANGUAGE: rus

19. Abbasov, T. G., Karavaeva, T. M., and Makhno, P. M. ([Embryotoxic Action of Phthalophos].

Veterinariia. 1980, jan(1):62-3. [Veterinariia]: Veterinariia.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Dose-Response Relationship, Drug
MESH HEADINGS: Embryo/*drug effects
MESH HEADINGS: Female
MESH HEADINGS: Insecticides/*toxicity
MESH HEADINGS: Phosmet/administration &amp
MESH HEADINGS: dosage/metabolism/*toxicity
MESH HEADINGS: Pregnancy
MESH HEADINGS: Rats
MESH HEADINGS: Tissue Distribution
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Embriotoksicheskoe deĭstvie ftalofosa.

20. Abbosov, T. G. and Riazhenov, N. I. (Determination of Phosmet in Meat, Milk, Eggs, Fish and Water. *Khim. Sel. Khoz. 15(3): 30-31 1977*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. Gas-chromatographic determination of phosmet residues in meat, milk, eggs, fish and water is described. Following extraction (with n-hexane from water, with acetone from all other materials) the extract is purified; phosmet is reextracted with n-hexane and determined on a gas chromatograph with electron capture detector, using a column with silanized methylsiloxane on Chromatone, and nitrogen as carrier gas. The column temperature is 230"C, the evaporator and detector temperature is 250"C. With a 70-cm column, the retention time is 1.5 min. Quantitative determination is done by peak height comparison against a reference. The sensitivity amounts to 0.15 ng/sample. The recovery rates are 80+-5% for milk, 85+-5% for meat and fish, 70+-8% for eggs, and 95+-5% for water.
LANGUAGE: rus

21. Abdel Khalik, K., Van den Berg, R. G., Van der Maesen, L. J. G., and El Hadidi, M. N. (2002). Pollen Morphology of Some Tribes of Brassicaceae From Egypt and Its Systematic Implications. *Feddes Repertorium, 113 (3-4) pp. 211-223, 2002*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0014-8962
Abstract: Pollen morphology of 39 species belonging to 23 genera of the tribes Arabideae, Euclidieae, Hesperideae, Lunarieae, Matthioleae and Sisymbrieae from Brassicaceae from Egypt were studied by using scanning electron microscope (SEM). The pollen grains were tricolpate. Their shape varies from prolate spheroidal, subprolate to prolate. Three pollen types can be distinguished based on the size of the lumina. The ornamentation varies between genera within the tribes and between species within the same genus. The ornamentation was found useful to distinguish among closely related genera such as Matthiola, Morettia and Diceratella and among species in the same genus such as Arabis, Morettia, Malcolmia and Neotorularia. Our results suggest that tribes Sisymbrieae, Matthioleae, Hesperideae and Arabideae are heterogeneous because all three types of ornamentation are found among the genera of these tribes. However, the tribes Euclidieae and Lunarieae are homogeneous because we found only one type of ornamentation among the genera.
19 refs.
Language: English
English; German
Publication Type: Journal
Publication Type: Article
Country of Publication: Germany
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies:

Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

22. Abelentseva, G. M., Kasparov, V. A., Kreminskaya, T. I., and Sedykh, A. S. (Colorado Beetle and Chemical Methods for Controlling It. *Agrokhimiya; 0 (11). 1985 (recd. 1986). 128-135.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM INSECTICIDES
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: COLEOPTERA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Coleoptera
LANGUAGE: rus

23. Ackermann, H. (Transfer of Organophosphorus Insecticides to the EmbryoöFormation of Po-Derivatives and Development of Toxic Symptoms. *Tagungsber. Akad. Landwirtschaftswiss. Ddr 126: 23-29* 1974..
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The effects of organophosphorus insecticides on pregnant albino rats were determined. Methylparathion, bromophos, and imidan (phosmet) ip were detectable from the placenta, liver, brain, muscle tissue, and fetuses of the rats. The PO isologue of methylparathion was detected in all embryonal tissue. When testing for bromophos and imidan, only traces of bromoxon, the PO isologue of bromophos, were recorded from fetal muscular tissue, while the imidan isologue was not detectable. Toxic symptoms were triggered during acute intoxication, which is in direct relation with PO isologue formation. During acute intoxication no direct relation existed between the applied dose of thionophosphoric acid compound and the inhibition of serum cholinesterase. Relations were established between the severity of intoxication and the occurrence of methyl-paraoxon as well as the inhibition of cholinesterase in muscle tissue, and in particular, muscle of the abdominal region.
LANGUAGE: ger

24. Adeishvili, L. G., Klisenko, M. A., and Pis'mennaia, M. V. (Dynamics of Pesticide Residues in Fruits. *Khim. Sel. Khoz. 14(11): 43-44* 1976..
Chem Codes: Chemical of Concern: PSM Rejection Code: NO SPECIES (DEAD), FATE.

ABSTRACT: PESTAB. The residue dynamics of phosalone, phthalophos (phosmet), rogor (dimethoate), anthio (formothion), carbophos (malathion) and gardona (tetrachlorvinphos) was studied in apples, tangerines and grapes after they were sprayed with 0.2% emulsions of these preparations. The residue half-life periods decreased in the order phosalone, phosphamide, gardona, phthalophos, carbophos and anthio, which largely corresponded to the rates of acid

hydrolysis of these pesticides. The rate of degradation was lower in the flesh than in the skin for phosalone and phthalophos, while the degradation of rate of anthio, phosphamide, and partly also of carbophos was higher in the flesh than in the skin.
LANGUAGE: rus

25. Adou, Kouame , Bontoyan, Warren R., and Sweeney, Paul J (2001). Multiresidue method for the analysis of pesticide residues in fruits and vegetables by accelerated solvent extraction and capillary gas chromatography. *Journal of Agricultural and Food Chemistry* 49: 4153-4160.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2001:567839
Chemical Abstracts Number: CAN 135:210074
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Melon (cantaloupe; pesticide multiresidue anal. of in fruits and vegetables by accelerated solvent extn. and capillary GC); Cabbage; Capillary gas chromatography; Food analysis; Food contamination; Fruit; Pear; Pesticides; Potato; Solvent extraction; Vegetable (pesticide multiresidue anal. of in fruits and vegetables by accelerated solvent extn. and capillary GC); Extraction (solid-phase; pesticide multiresidue anal. of in fruits and vegetables by accelerated solvent extn. and capillary GC)
CAS Registry Numbers: 50-29-3; 55-38-9 (Fenthion); 58-89-9 (Lindane); 62-73-7 (Dichlorvos); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 86-50-0 (Azinphos-methyl); 99-30-9 (Dicloran); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 959-98-8 (endosulfan 1); 1031-07-8 (Endosulfan sulfate); 1582-09-8 (Trifluralin); 1897-45-6 (Chlorothalonil); 2921-88-2 (Chlorpyrifos); 6923-22-4 (Monocrotophos); 13071-79-9 (Terbufos); 15972-60-8 (Alachlor); 33213-65-9 (endosulfan 2); 40487-42-1 (Pendimethalin); 51218-45-2 (Metolachlor); 51338-27-3 (Diclofop-methyl); 52645-53-1 (Permethrin); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), ANST (Analytical study) (pesticide multiresidue anal. of in fruits and vegetables by accelerated solvent extn. and capillary GC)
Citations: 1) Lehotay, S; J AOAC Int 1995, 67, 821
Citations: 2) Lehotay, S; J Chromatogr 1997, 785, 313
Citations: 3) Obana, H; Analyst 1997, 122, 217
Citations: 4) Nemoto, S; J Assoc Off Anal Chem 1974, 46, 2190
Citations: 5) Bauer, M; Analytical Methodology for the Determination of Clomazone, FMC 55657, and FMC 65317 in Water and Soil 1995
Citations: 6) Schenck, F; Bull Environ Contam Toxicol 1999, 63, 277
Citations: 7) Erney, D; J Chromatogr 1993, 638, 57
Citations: 8) Agricultural Marketing Service; Pesticide Data Program, Annual Summary Calendar Year 1994 1994
Citations: 9) Agricultural Marketing Service; Pesticide Data Program, Annual Summary Calendar Year 1998 1998
Citations: 10) Fillion, J; J AOAC Int 1995, 67, 1252
Citations: 11) Clesceri, L; Standard Methods for the Examination of Water and Wastewater, 20th ed 1998, 17
Citations: 12) U S Food And Drug Administration; Pesticide Analytical Manual, 3rd ed 1994
Citations: 13) Casanova, J; J AOAC Int 1996, 68, 936 An anal. procedure using accelerated solvent extn. and capillary gas chromatog. with electron capture and flame photometric detections was developed to simultaneously det. residues of different pesticides in fruits and vegetables. Single lab. validation of the method was carried out for 28 compds. selected from 8 pesticide classes, in blank and fortified samples of fresh pear, cantaloupe, white potato, and cabbage. The method had to meet specific established validation criteria for regulatory purposes applicable to the lab. At each of the 2 fortification levels studied, 24 of the 28 pesticides gave recoveries of

more than 70% with a coeff. of variation of less than 10%. With respect to existing procedures, the method showed acceptable limits of detection (from 0.0019 to 0.14 mg/g depending on the pesticide and matrix) while minimizing environmental concerns, time, and labor. [on SciFinder (R)] 0021-8561 pesticide/ extn/ capillary/ GC/ fruit/ vegetable

26. Agudo, A., Ribeiro, J. M., Canales, J., and Cameselle, J. C. (Use of Potato Tuber Nucleotide Pyrophosphatase to Synthesize Adenosine 5'-Monophosphate Methyl Ester: Evidence That the Solvolytic Preferences of the Enzyme Are Regulated by Ph and Temperature. *Biotechnol bioeng. 1998, jul 5; 59(1):62-7. [Biotechnology and bioengineering]: Biotechnol Bioeng.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: Nucleotide alkyl esters are pharmacologically important as potential (ant)agonists of purinoceptors and inhibitors of enzymes. Potato nucleotide pyrophosphatase (PNP) was compared with snake venom phosphodiesterase (SVP) as a catalyst to synthesize nucleotide alkyl esters. In methanol-water mixtures, the methanolysis/hydrolysis ratio of PNP, but not SVP, changed with pH and temperature, being optimal at high pH and low temperature. In a semi-preparative experiment, a crude PNP preparation produced 0.17 mM AMP-O-methyl ester (AMP-OMe) from 1 mM diadenosine 5',5"'-P1,P2-diphosphate (AppA) and 5M methanol, at pH 9 and 0 degrees C. Drawbacks to large-scale use are: low rates inherent to low temperatures, ATP unsuitability as a substrate for alcoholysis, and high cost of AppA. Advantages of PNP vs. SVP are cheapness, non-toxicity, and availability of the enzyme source.
MESH HEADINGS: Adenosine Monophosphate/analogs &amp
MESH HEADINGS: derivatives/*chemical synthesis
MESH HEADINGS: Chromatography, High Pressure Liquid
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Indicators and Reagents
MESH HEADINGS: Kinetics
MESH HEADINGS: Phosphodiesterase I
MESH HEADINGS: *Phosphoric Diester Hydrolases/isolation &amp
MESH HEADINGS: purification/metabolism
MESH HEADINGS: *Pyrophosphatases/isolation &amp
MESH HEADINGS: purification/metabolism
MESH HEADINGS: Solanum tuberosum/*enzymology
MESH HEADINGS: Solubility
MESH HEADINGS: Thermodynamics
LANGUAGE: eng

27. Aiyuk, S., Forrez, I., Lieven De, K., Van Haandel, A., and Verstraete, W. (Anaerobic and Complementary Treatment of Domestic Sewage in Regions With Hot Climates--a Review. *Bioresour technol. 2006, nov; 97(17):2225-41. [Bioresource technology]: Bioresour Technol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA, FATE.

ABSTRACT: This study presents a literature review on the treatment of domestic sewage in controlled environments having the anaerobic process and specifically the upflow anaerobic sludge blanket (UASB) concept as the core, under natural hot conditions. The UASB process application is however beset by the preponderance of suspended solids, and the paper looks at its optimization via pre- and post-treatments to curb the prevailing problems, in the light of possible discharge and re-use/recycling/resource recovery, leading to efficient environmental protection. Pre-treatment clarification could be done with ferric chloride/polyelectrolyte, so that phosphate precipitates during the process. The pre-treated liquid phase can be submitted to a high rate anaerobic process, using the simple and robust UASB technology. In a subsequent post-treatment step, ammonium can be removed by ion exchange using a zeolite column through which the wastewater percolates after leaving the anaerobic digester. The various stages can also eliminate a large fraction of the pathogens present in the raw wastewater, mainly through the pre-treatment sedimentation and the ion exchange filtration. The sludge produced in the precipitation stage can be stabilized in a conventional anaerobic digester. Integration of the different treatment steps

provides a sustainable technology to treat domestic sewage under hot climate conditions.
MESH HEADINGS: Bacteria, Anaerobic/growth &amp
MESH HEADINGS: development/*physiology
MESH HEADINGS: Biodegradation, Environmental
MESH HEADINGS: Bioreactors
MESH HEADINGS: *Climate
MESH HEADINGS: *Heat
MESH HEADINGS: Sewage/chemistry/*microbiology
MESH HEADINGS: Waste Disposal, Fluid
MESH HEADINGS: *Water Purification
LANGUAGE: eng

28. Akiyama, Y., Yano, M., Mitsuhashi, T., Takeda, N., and Tsjuji, M. (1996). Simultaneous Determination of Pesticides in Agricultural Products by Solid-Phase Extraction and Gas Chromatography-Mass Spectrometry. *Journal of the food hygienic society of japan* 37: 351-362.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A method was developed for determining 107 pesticides in agricultural products. Residues were extracted from samples with acetonitrile, and coextractives were removed with both ODS and PSA mini-column cleanup. Analysis was performed by gas chromatography with mass spectrometry. Positive analytes were confirmed on the basis of retention time and relative response ratio of two fragment ions. A limit of detection of 0.01 ppm was available for all compounds with two injections per sample for both scan and selected ion monitoring mode analyses. Recovery data were obtained by fortifying 3 matrices (brown rice, lemon, and spinach) at 0.1 ppm. Recoveries were more than 50% except for 6 pesticides, whose recoveries varied among the different matrices. The method demonstrated acceptable performance for screening analysis (including polar compounds). The method was applied to 157 samples. From 69 samples, 34 pesticides were detected at levels of more than 0.01 ppm. No sample was c
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: CEREALS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: ANIMAL FEED
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Cereal Chemistry
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-General
KEYWORDS: Agronomy-Forage Crops and Fodder
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Pest Control

LANGUAGE: jpn

29. Alder, Lutz, Korth, Wolfagang, Patey, Alan L., Van der Schee, Henk A., and Schoeneweiss, Siegmar (2001). Estimation of measurement uncertainty in pesticide residue analysis. *Journal of AOAC International* 84: 1569-1578.
Chem Codes : Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2001:754928
Chemical Abstracts Number: CAN 135:367934
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 17, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides; Statistical analysis (estn. of measurement uncertainty in pesticide residue anal.)
CAS Registry Numbers: 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 121-75-5 (Malathion); 298-00-0 (Parathionmethyl); 298-02-2 (Phorate); 311-45-5 (Paraoxon); 732-11-6 (Phosmet); 919-86-8 (Demeton-S-methyl); 950-35-6 (Paraoxonmethyl); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 17040-19-6 (Demeton-S-methylsulfone); 30560-19-1 (Acephate); 36734-19-7 (Iprodione); 67564-91-4 (Fenpropimorph) Role: ANT (Analyte), ANST (Analytical study) (estn. of measurement uncertainty in pesticide residue anal.)
Citations: 1) Horwitz, W; J Assoc Off Anal Chem 1980, 63, 1344
Citations: 2) Laboratory Of The Government Chemist; EURACHEM Guide:Quantifying Uncertainty in Analytical Measurement 1995
Citations: 3) Horwitz, W; J AOAC Int 1998, 81, 785
Citations: 4) Horwitz, W; Analyst 1997, 122, 615
Citations: 5) Analytical Methods Committee; Analyst 1995, 120, 2303
Citations: 6) Anon; Draft EURACHEM/CITAC Guide:Quantifying Uncertainty in Analytical Measurement, 2nd Ed, www.vtt.fi/ket/eurachem.html 1999
Citations: 7) Horwitz, W; Anal Chem 1982, 54, 67A
Citations: 8) Boyer, K; Anal Chem 1985, 57, 454
Citations: 9) Ellison, S; Accred Qual Assur 1998, 3, 95
Citations: 10) Working Group Pesticides; Lebensmittelchemie 1998, 52, 95
Citations: 11) Williams, A; Inside Laboratory Management 1998, 2, 27
Citations: 12) Nordic Committee On Food Analysis; Estimation and Expression of Measurement Uncertainty in Chemical Analysis, NKML Procedure No 5 1997
Citations: 13) Sachs, L; Angewandte Statistik 4th Ed, sec 558 1974
Citations: 14) Dawsen-Saunders, B; Basic and Clinical Biostatistics, Chap 12 1990
Citations: 15) Thompson, M; J AOAC Int 1997, 80, 676
Citations: 16) Erney, D; J Chromatogr 1993, 638, 57
Citations: 17) Wylie, P; J AOAC Int 1995, 79, 571
Citations: 18) Johnson, P; J Chromatogr 1997, 765, 3
Citations: 19) Erney, D; J High Resol Chromatogr 1997, 20, 375
Citations: 20) Hajslova, J; J Chromatogr 1998, 800, 283 Proficiency test results from 5 countries involving 61 sep. interlab. tests for pesticide residues were examd. A total of 24 matrixes and 869 relative std. deviations of the mean (or median) pesticide residue concn. were statistically evaluated in relation to the Horwitz function (Horwitz, W.; 1998). The aim was to det. whether or not the concn.-dependent relationship described by Horwitz would hold for the much narrower range of chems. and concns. covered in routine pesticide residue anal. Although for fatty (animal-derived) matrixes the variability increased as the concn. decreased in line with the Horwitz equation, the between-labs. relative std. deviations for nonfatty matrixes (fruit, vegetables, and

grain) remained at 25% over the entire concn. range of 1 mg/kg to 10 mg/kg for the pesticides studied. Given these findings, the Horwitz equation remains valid for calcg. uncertainties involving pesticide residues in fatty matrixes. However, for pesticide residue analyses involving nonfatty matrixes, a const. relative std. deviation of 25% is more appropriate for calcg. uncertainties, particularly when a reported result is assessed against a regulatory limit. [on SciFinder (R)] 1060-3271 statistical/ analysis/ uncertainty/ pesticide/ residue/ detn

30. Alikhanidi, Sokratis and Takahashi, Yoshimasa (2004). Pesticide persistence in the environment - collected data and structure-based analysis. *Journal of Computer Chemistry, Japan* 3: 59-70.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:619828
Chemical Abstracts Number: CAN 141:361929
Section Code: 5-6
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Environmental pollution; Pesticides; Simulation and Modeling; Simulation and Modeling (pesticide persistence in environment)
CAS Registry Numbers: 50-00-0 (Formaldehyde); 50-29-3 (Ddt); 50-31-7; 51-03-6 (Piperonyl butoxide); 52-68-6; 55-38-9 (Fenthion); 56-23-5 (Carbon tetrachloride); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 57-24-9 (Strychnine); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 61-82-5 (Amitrole); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 66-81-9 (Cycloheximide); 67-66-3 (Chloroform); 71-55-6 (Methylchloroform); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9 (Dde); 74-83-9 (Methyl bromide); 74-85-1 (Ethylene); 74-90-8 (Hydrogen cyanide); 75-09-2 (Methylene chloride); 75-15-0 (Carbon disulfide); 75-21-8 (Ethylene oxide); 75-99-0 (Dalapon); 76-03-9 (Tca); 76-06-2 (Chloropicrin); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8 (Tribufos); 78-57-9 (Menazon); 78-87-5 (1,2-Dichloropropane); 79-11-8 (Chloroacetic acid); 79-34-5 (Tetrachloroethane); 82-68-8 (Pcnb); 83-79-4 (Rotenone); 84-65-1 (Anthraquinone); 84-74-2 (Dibutyl phthalate); 85-00-7 (Diquat); 85-34-7 (Fenac); 86-50-0 (Azinphos-methyl); 87-68-3 (Hexachlorobutadiene); 87-86-5 (Pentachlorophenol); 88-85-7 (Dinoseb); 90-15-3 (1-Naphthol); 90-43-7 (2-Phenylphenol); 91-20-3 (Naphthalene); 92-52-4 (Biphenyl); 93-15-2 (Methyleugenol); 93-65-2 (Mecoprop); 93-71-0 (Cdaa); 93-72-1 (Fenoprop); 93-76-5; 94-74-6 (Mcpa); 94-75-7; 94-81-5 (Mcpb); 95-50-1 (o-Dichlorobenzene); 96-12-8 (Dbcp); 96-24-2 (a-Chlorohydrin); 97-23-4 (Dichlorophene); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 101-21-3 (Chloropropham); 101-27-9 (Barban); 101-42-8 (Fenuron); 103-33-3 (Azobenzene); 106-46-7 (p-Dichlorobenzene); 106-93-4 (Ethylene dibromide); 107-02-8 (Acrolein); 107-06-2 (Ethylene dichloride); 107-13-1 (Acrylonitrile); 107-18-6 (Allyl alcohol); 108-60-1 (Dcip); 108-62-3 (Metaldehyde); 109-73-9 (Butylamine); 109-94-4 (Ethyl formate); 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 117-80-6 (Dichlone); 118-74-1 (Hexachlorobenzene); 118-75-2 (Chloranil); 120-36-5 (Dichloroprop); 121-21-1 (Pyrethrin i); 121-29-9 (Pyrethrin ii); 121-75-5; 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-42-9 (Propham); 122-88-3 (4Cpa); 123-33-1; 131-11-3 (Dimethyl phthalate); 132-66-1 (Naptalam); 133-06-2 (Captan); 133-07-3 (Folpet); 133-90-4 (Chloramben); 134-62-3 (Diethyltoluamide); 137-26-8 (Thiram); 139-40-2 (Propazine); 140-56-7 (Fenaminosulf); 141-66-2 (Dicrotophos); 143-50-0; 144-54-7 (Metham); 145-73-3 (Endothall); 148-24-3 (8-Hydroxyquinoline); 148-79-8 (Thiabendazole); 149-26-8 (Disul); 150-68-5 (Monuron); 297-78-9 (Isobenzan); 297-97-2 (Thionazin); 298-00-0; 298-02-2 (Phorate); 298-03-3 (Demeton-o); 298-04-4 (Disulfoton); 299-84-3; 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 309-00-2 (Aldrin); 314-40-9; 315-18-4 (Mexacarbate); 327-98-0 (Trichloronat); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5; 465-73-6 (Isodrin); 470-90-6; 504-24-5 (4-Aminopyridine); 510-15-6 (Chlorobenzilate); 520-45-6 (Dehydroacetic acid); 533-74-4 (Dazomet); 534-52-1 (Dnoc); 542-75-6 (1,3-Dichloropropene); 555-37-3 (Neburon); 556-61-6 (Methyl isothiocyanate); 563-12-2 (Ethion); 580-48-3 (Chlorazine); 640-15-3 (Thiometon); 640-

19-7 (Fluoroacetamide); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 759-94-4 (Eptc); 786-19-6 (Carbophenothion); 834-12-8 (Ametryn); 886-50-0 (Terbutryn); 919-86-8 (Demeton-s-methyl); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamide); 973-21-7 (Dinobuton); 999-81-5; 1014-69-3 (Desmetryn); 1014-70-6 (Simetryn); 1071-83-6 (Glyphosate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1129-41-5 (Metolcarb); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1300-71-6 (Xylenol); 1319-77-3 (Cresol); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1596-84-5 (Daminozide); 1610-18-0 (Prometon); 1646-88-4 (Aldoxycarb); 1689-83-4 (Ioxynil); 1689-84-5 (Bromoxynil); 1698-60-8 (Pyrazon); 1702-17-6 (Clopyralid); 1746-81-2 (Monolinuron); 1836-75-5 (Nitrofen); 1861-32-1 (Dcpa); 1861-40-1 (Benefin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorobufam); 1982-47-4 (Chloroxuron); 1982-49-6 (Siduron); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (Epn); 2104-96-3 (Bromophos); 2163-69-1 (Cycluron); 2164-08-1 (Lenacil); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2227-17-0 (Dienochlor); 2275-23-2 (Xmc); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2439-01-2 (Oxythioquinox); 2439-10-3 (Dodine); 2540-82-1 (Formothion); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2636-26-2 (Cyanophos); 2675-77-6 (Chloroneb); 2921-88-2 (Chloropyrifos-ethyl); 3337-71-1 (Asulam); 3383-96-8 (Temephos); 3478-94-2 (Piperalin); 4147-51-7 (Dipropetryn); 4685-14-7 (Paraquat); 4726-14-1 (Nitralin); 5221-53-4 (Dimethirimol); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0; 5825-87-6 (3Cpa); 5836-10-2 (Chloropropylate); 5902-51-2 (Terbacil); 5915-41-3 (Terbutylethylazine); 6164-98-3 (Chlordimeform); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7287-19-6 (Prometryn); 7700-17-6 (Crotoxyphos); 7773-06-0 (Ams); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10433-59-7; 10453-86-8 (Resmethrin); 10605-21-7 (Carbendazim); 12122-67-7 (Zineb); 12407-86-2 (Trimethacarb); 12427-38-2 (Maneb); 12771-68-5 (Ancymidol); 12789-03-6 (Chlordane); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 13360-45-7; 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14484-64-1 (Ferbam); 15299-99-7 (Napropamide); 15310-01-7 (Benodanil); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 16672-87-0 (Ethephon); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18181-70-9 (Iodofenphos); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazon); 20354-26-1 (Methazole); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22248-79-9; 22259-30-9 (Formetanate); 22781-23-3 (Bendiocarb); 22936-86-3 (Cyprazine); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos-ethyl); 23564-05-8 (Thiophanate-methyl); 23950-58-5 (Pronamide); 24307-26-4 (Mepiquat chloride); 24579-73-5 (Propamocarb); 24691-80-3 (Fenfuram); 25057-89-0 (Bentazon); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 26644-46-2 (Triforine); 27314-13-2 (Norflurazon); 28249-77-6 (Thiobencarb); 29091-05-2 (Dinitramine); 29091-21-2 (Prodiamine); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 31895-21-3 (Thiocyclam); 32809-16-8 (Procymidone); 33089-61-1 (Amitraz); 33245-39-5 (Fluchloralin); 33820-53-0 (Isopropalin); 34014-18-1 (Tebuthiuron); 34256-82-1 (Acetochlor); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 37764-25-3 (Dichlormid); 37924-13-3 (Perfluidone); 38727-55-8 (Diethatyl-ethyl); 39148-24-8 (Fosetyl-aluminum); 39300-45-3 (Dinocap); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 41814-78-2 (Tricyclazole); 42509-80-8 (Isazofos); 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 49866-87-7 (Difenzoquat); 50471-44-8 (Vinclozolin); 50594-66-6 (Acifluorfen); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51276-47-2 (Glufosinate); 51338-27-3 (Diclofop-methyl); 51707-55-2 (Thidiazuron); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 53780-34-0 (Mefluidide); 54593-83-8 (Chlorethoxyfos); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55290-64-7 (Dimethipin); 55335-06-3 (Triclopyr); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58138-08-2 (Tridiphane); 59669-26-0 (Thiodicarb); 59682-52-9 (Fosamine); 59756-60-4 (Fluridone); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 62924-70-3 (Flumetralin); 64902-72-3 (Chlorsulfuron); 66215-27-8 (Cyromazine); 66230-04-4

(Esfenvalerate); 66441-23-4 (Fenoxaprop-ethyl); 66841-25-6 (Tralomethrin); 67375-30-8 (Alphacypermethrin); 67485-29-4 (Hydramethylnon); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68694-11-1 (Triflumizole); 69335-91-7 (Fluazifop); 69377-81-7 (Fluroxypyr); 69409-94-5 (Fluvalinate); 69806-40-2 (Haloxyfop-methyl); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 71751-41-2 (Abamectin); 72178-02-0 (Fomesafen); 72490-01-8 (Fenoxycarb); 74051-80-2 (Sethoxydim); 74115-24-5 (Clofentezine); 74222-97-2 (Sulfometuron-methyl); 74223-64-6 (Metsulfuron methyl); 76578-14-8 (Quizalofop-ethyl); 76738-62-0 (Paclobutrazol); 77501-63-4 (Lactofen); 78587-05-0 (Hexythiazox); 79277-27-3 (Thifensulfuron methyl); 81334-34-1 (Imazapyr); 81335-37-7 (Imazaquin); 81335-77-5 (Imazethapyr); 81405-85-8 (Imazamethabenz methyl); 81777-89-1 (Clomazone); 82097-50-5 (Triasulfuron); 82558-50-7 (Isoxaben); 82657-04-3 (Bifenthrin); 83055-99-6 (Bensulfuron methyl); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 86209-51-0 (Primisulfuron-methyl); 87818-31-3 (Cinmethylin); 87820-88-0 (Tralkoxydim); 88671-89-0 (Myclobutanil); 90982-32-4 (Chlorimuron ethyl); 91465-08-6; 97780-06-8; 98967-40-9 (Flumetsulam); 101200-48-0 (Tribenuron methyl); 103361-09-7 (Flumioxazin); 109293-97-2 (Diflufenzopyr); 111991-09-4 (Nicosulfuron); 113136-77-9 (Cyclanilide); 114311-32-9 (Imazamox); 114420-56-3 (Clodinafop); 117718-60-2 (Thiazopyr); 120162-55-2 (Azimsulfuron); 121552-61-2 (Cyprodinil); 122836-35-5 (Sulfentrazone); 122931-48-0 (Rimsulfuron); 123342-93-8 (Pyrithiobac); 126535-15-7 (Triflusulfuron methyl); 129025-54-3 (Clofencet); 135158-54-2 (Acibenzolar-s-methyl); 142459-58-3 (Flufenacet); 143390-89-0 (Kresoxim-methyl); 150315-10-9 (Flupyrsulfuron); 159518-97-5 (Cloransulam) Role: BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (pesticide persistence in environment)

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Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RHAGOLETIS-POMONELLA OPIUS-DOWNESI OPIUS-LECTOIDES PARASITOID DEVELOPMENT CLIMATE HOST PLANT INSECTICIDE BIOLOGICAL CONTROL GEOGRAPHIC DISTRIBUTION
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: CELL DIFFERENTIATION
MESH HEADINGS: FETAL DEVELOPMENT
MESH HEADINGS: MORPHOGENESIS
MESH HEADINGS: EMBRYOLOGY
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS

MESH HEADINGS: PEST CONTROL, BIOLOGICAL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: ANIMALS, WILD
MESH HEADINGS: PARASITIC DISEASES/VETERINARY
MESH HEADINGS: ANIMALS
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: DIPTERA
MESH HEADINGS: HYMENOPTERA
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Developmental Biology-Embryology-Morphogenesis
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Biological Control
KEYWORDS: Economic Entomology-Integrated Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Parasitology-General
KEYWORDS: Animal Distribution (1971-)
KEYWORDS: Invertebrata
KEYWORDS: Invertebrata
KEYWORDS: Solanaceae
KEYWORDS: Diptera
KEYWORDS: Hymenoptera
LANGUAGE: eng

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Peroxynitrite, the reaction product of nitric oxide and superoxide, is a potent and versatile oxidant that can attack a wide range of targets. In this work, we studied the oxidation of hydrogen peroxide by peroxynitrite; which led to oxygen evolution. Oxygen yields increased at alkaline pH with an apparent pKalpha of 7.05 | 0.04. The maximum yields were 16% and 32% of added peroxynitrite at pH 5.9 and 7.4, respectively, assuming that two molecules of peroxynitrite are needed to produce one of oxygen. Hydroxyl radical scavengers (dimethyl sulfoxide, mannitol, ethanol, formate, and acetate) inhibited oxygen evolution to a similar extent to that predicted from their rate constants with hydroxyl radical. The apparent rate constant of peroxynitrite decomposition was zero-order in hydrogen peroxide at

acidic pH. At neutral and alkaline pH; the rate of peroxynitrite disappearance decreased in the presence of millimolar concentrations of hydrogen peroxide by up to 50%. The appa
MESH HEADINGS: GASES
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
KEYWORDS: Biochemistry-Gases (1970-)
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Toxicology-General
LANGUAGE: eng

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<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: SURVEY.

ABSTRACT: PESTAB. The results of pesticides residue analyses in feedstuff samples, performed in Hungary during the period 1974-1978, are presented. A total of 939 barley samples were examined for 23 active agents, including aluminum phosphide, diazinon, dichlorvos, lindane, DDT, MCPA and 2,4-D. The levels found exceeded the respective maximum residue levels (MRL) for aluminum phosphide in 1 of 18 samples and for dichlorvos in 3 of 9 samples. The levels were below the detection limit in 853 samples. A total of 2010 wheat samples were investigated for 37 active agents, including aldrin, alpha-BHC, aluminum phosphide, benomyl, diazinon, diquat, endosulfan, lindane and DDT. Levels exceeding the MRL were found in 296 samples. Levels were below the detection limit in 1344. The residues of 53 active agents, including actinit PK, aldrin, aluminum phosphide, dieldrin, phorate, phosphamidon, phosmet, lindane, DDT and 2,4-D were analyzed in 7666 corn samples. The residue levels exceeded the MRL in 1 case, and were below the detection limit in 500 cases. Residues of 30 active agents, including diquat dibromide, diuron, endosulfan, phencapton, lindane, monocrotophos and paraquat dibromide, were measured in 347 fresh alfalfa samples. The residue levels exceeded the MRL in 3 cases and were below the detection limit in 313 cases. Residue levels exceeding the MRL were found in 4 of 24 dry alfalfa samples, in 25 of 424 sunflower seed samples, and in 2 of 141 soybean samples.
LANGUAGE: hun

34. Ambrus, Arpad, Hargitai, Eva, Karoly, Gabriella, Fulop, Andras, and Lantos, Janos (1981). General method for determination of pesticide residues in samples of plant origin, soil, and water. II. Thin layer chromatographic determination. *Journal - Association of Official Analytical Chemists* 64: 743-8.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1981:436910
Chemical Abstracts Number: CAN 95:36910
Section Code: 5-1
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
Index Terms: Plant analysis (for pesticides, thin-layer chromatog. methods for); Chromatography (pesticides detn. by); Soil analysis (pesticides detn. in, thin-layer chromatog. in)

CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 58-89-9; 60-51-5; 60-57-1; 62-73-7; 63-25-2; 76-44-8; 80-06-8; 86-50-0; 91-53-2; 99-30-9; 101-21-3; 114-26-1; 115-29-7; 116-06-3; 116-29-0; 121-75-5; 122-14-5; 122-34-9; 122-42-9; 126-22-7; 133-06-2; 133-07-3; 298-00-0; 309-00-2; 330-54-1; 330-55-2; 333-41-5; 470-90-6; 732-11-6; 759-94-4; 886-50-0; 950-35-6; 950-37-8; 957-51-7; 973-21-7; 1194-65-6; 1563-66-2; 1582-09-8; 1634-78-2; 1698-60-8; 1746-81-2; 1836-75-5; 1861-40-1; 1912-24-9; 1918-16-7; 1982-47-4; 2008-41-5; 2032-65-7; 2104-96-3; 2164-08-1; 2227-13-6; 2255-17-6; 2275-14-1; 2312-35-8; 2425-06-1; 3060-89-7; 3337-71-1; 3347-22-6; 4658-28-0; 4855-62-3; 5707-69-7; 5836-10-2; 6164-98-3; 6552-12-1; 6923-22-4; 6988-21-2; 7287-19-6; 7786-34-7; 10605-21-7; 13171-21-6; 13360-45-7; 13684-56-5; 13684-63-4; 14734-96-4; 15299-99-7; 15545-48-9; 16709-30-1; 16752-77-5; 17804-35-2; 18691-97-9; 19666-30-9; 19937-59-8; 21087-64-9; 21725-46-2; 23103-98-2; 23135-22-0; 23564-05-8; 23947-60-6; 24017-47-8; 28249-77-6; 32809-16-8; 38260-54-7; 50471-44-8; 60168-88-9 Role: ANT (Analyte), ANST (Analytical study) (detn. of, thin-layer chromatog.); 7732-18-5 Role: ANST (Analytical study) (for pesticide residues, thin-layer chromatog. in); 100-10-7; 119-93-7; 456-27-9; 30560-19-1 Role: BIOL (Biological study) (in pesticide detn. by thin-layer chromatog.); 7681-11-0; 7761-88-8 Role: USES (Uses) (in pesticide detn. by thin-layer chromatog.) O-Tolidine plus KI, p-nitrobenzene-diazonium-fluoroborate, bioassay with fungi and enzyme sources, AgNO3 plus UV radiation, and p-dimethyl-aminobenzaldehyde modes of detection were selected for TLC screening of pesticide residues in exts. of samples of unknown origin. Single solvents were used for the elution. Coeffs. of variation of Rf values were studied as a function of Rf and eluants. Indicator compds. were used for controlling the proper conditions of detection. The detectability of 188 pesticide compds. was tested, and the min. detectable amts. were detd. [on SciFinder (R)] 0004-5756 pesticide/ analysis/ TLC;/ chromatog/ pesticide/ detn

35. Ambrus, Arpad and Soboleva, Eugenia (2004). Contribution of sampling to the variability of pesticide residue data. *Journal of AOAC International* 87: 1368-1379.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Database: CAPLUS
Accession Number: AN 2004:1121725
Chemical Abstracts Number: CAN 142:92488
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Information systems (data; sampling contribution to variability of pesticide residue data in crop); Actinidia chinensis; Citrus sinensis; Cucumis sativus; Food contamination; Fruit; Lycopersicon esculentum; Malus pumila; Musa acuminata; Orange; Prunus domestica; Prunus persica; Pyrus communis; Sampling; Solanum tuberosum; Vegetable; Vitis vinifera (sampling contribution to variability of pesticide residue data in crop)
CAS Registry Numbers: 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 148-79-8 (Thiabendazole); 298-00-0 (Parathion methyl); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos methyl); 10265-92-6 (Methamidophos); 13171-21-6 (Phosphamidon); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 22259-30-9 (Formetanate); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate); 35554-44-0 (Imazalil); 50471-44-8 (Vinclozolin); 52645-53-1 (Permethrin); 57837-19-1 (Metalaxyl) Role: POL (Pollutant), OCCU (Occurrence) (sampling contribution to variability of pesticide residue data in crop)
Citations: 1) Ambrus, J; Pesticide Residues 1979, 6
Citations: 2) Lykken, L; Residue Reviews 1963, 3, 19
Citations: 3) Snedecor, G; Statistical Methods, 7th Ed 1980
Citations: 4) Ambrus, A; Food Addit Contam 2000, 17, 519
Citations: 5) Harris, C; Food Addit Contam 2000, 17, 491
Citations: 6) Food Agriculture Organization (FAO); Pesticide Residues in Food: Evaluations 1996

1997, 485
Citations: 7) Ambrus, A; J Agric Food Chem 2002, 50, 4846
Citations: 8) Codex Secretariat; Recommended Method of Sampling for the Determination of Pesticide Residues for Compliance with MRLs, ftp://ftp.fao.org/codex/standard/en/cxg_033e.pdf 2003
Citations: 9) Horwitz, W; Principles and Practices of Method Validation 2000, 1
Citations: 10) Ambrus, A; J Environ Sci Health B 1996, 31, 435
Citations: 11) Ambrus, A; Pesticide Chemistry and Bioscience: Food and Environment Challenge 1999, 339 The uneven distribution of pesticide residues among the treated objects leads to an inevitable variability of pesticide residue levels measured in the samples, which may significantly contribute to the combined uncertainty of the anal. results. A total of 8844 unit-crop residue data derived from 57 lots and 19 field trials were evaluated to det. the characteristic features of residue distribution in unit crops and composite samples. The av. residue levels and the corresponding coeff. of variation (CV) values obtained for individual units taken from a given lot showed wide variation from lot to lot. There was no significant difference between the CVs of residue levels in sample sets of various unit crops or composite sample populations of different sizes taken from various crops. The CV values for levels of residues taken from individual lots followed normal distribution. Very good correlation was found between the CVs of the parent and sample populations. The exptl. obtained values were very close to those expected on the basis of the central limit theorem. The estd. typical relative std. uncertainties of sampling medium-size crops for pesticide residue anal. in the cases of sample sizes of 5, 10, and 25 were 37, 25, and 16%, resp. [on SciFinder (R)] 1060-3271 pesticide/ food/ contamination/ sampling/ data

36. Amirkhanov, D. V. (1994). Resistance of Colorado Potato Beetle to Insecticides and Possibilities to Control It. *Agrokhimiya* 0: 144-150.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW ORGANOCHLORINES ORGANOPHOSPHORUS CYCLODIENES CARBAMATES PYRETHROIDS DETOXIFICATION ENZYMES GENETICS PEST CONTROL
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: COLEOPTERA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Coleoptera

LANGUAGE: rus

37. Amirkhanov, D. V. and Arzhavitina, M. P. (1990). Cross-Resistance of Insects to Modern Insecticides Using Musca-Domestica as an Example. *Agrokhimiya* 0: 122-126.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: DIPTERA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Diptera
LANGUAGE: rus

38. Amirkhanov, D. V., Leont'eva, T. L., and Chernikova, O. P. (1990). Using Pyrethroids to Control the Colorado Potato Beetle. *Agrokhimiya* 0: 91-97.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM LEPTINOTARSA-DECEMLINEATA INSECT SENSITIVITY INSECTICIDE
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: COLEOPTERA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Coleoptera
LANGUAGE: rus

39. Amirkhanov, D. V. and Sokolyanskaya, M. P. (1992). Activity of Detoxifying Enzymes at the Initial Stage of Formation of Tolerance to Insecticides in the Housefly. *Agrokhimiya* 0: 115-121.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM DELTAMETHRIN FENVALERATE ETOFENPROX CHLORFLUAZURON PHOSMET PHOXIM ESTERASES MICROSOMAL MONOXYGENASES GLUTATHIONE-S-TRANSFERASES
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: AMINO ACIDS
MESH HEADINGS: PEPTIDES
MESH HEADINGS: PROTEINS
MESH HEADINGS: ENZYMES/PHYSIOLOGY
MESH HEADINGS: METABOLISM
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMALS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: DIPTERA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Proteins
KEYWORDS: Enzymes-Physiological Studies
KEYWORDS: Metabolism-General Metabolism
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Animal Pests
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Diptera
LANGUAGE: rus

40. Amvrazi, Elpiniki G. and Albanis, Triantafyllos A (2006). Multiresidue Method for Determination of 35 Pesticides in Virgin Olive Oil by Using Liquid-Liquid Extraction Techniques Coupled with Solid-Phase Extraction Clean Up and Gas Chromatography with Nitrogen Phosphorus Detection and Electron Capture Detection. *Journal of Agricultural and Food Chemistry* 54: 9642-9651.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:1224864
Chemical Abstracts Number: CAN 146:120625
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal

Language: written in English.
Index Terms: Olive oil Role: AMX (Analytical matrix), ANST (Analytical study) (extra virgin; pesticides in virgin olive oil detd. by liq.-liq. and solid-phase extn. and GC with N-P and electron capture detection); Extraction; Food contamination; Gas chromatography; Herbicides; Insecticides; Pesticides (pesticides in virgin olive oil detd. by liq.-liq. and solid-phase extn. and GC with N-P and electron capture detection); Extraction (solid-phase; pesticides in virgin olive oil detd. by liq.-liq. and solid-phase extn. and GC with N-P and electron capture detection)
CAS Registry Numbers: 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 298-00-0 (Parathion methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 1861-32-1 (Chlorthal dimethyl); 1912-24-9 (Atrazine); 2310-17-0 (Phosalone); 2595-54-2 (Mecarbam); 2642-71-9 (Azinphos ethyl); 2921-88-2 (Chlorpyrifos); 3761-41-9 (Fenthion sulfoxide); 7287-19-6 (Prometryn); 13593-03-8 (Quinalphos); 29232-93-7 (Pirimiphos methyl); 33213-65-9 (b-Endosulfan); 38260-54-7 (Etrimfos); 42874-03-3 (Oxyfluorfen); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 67375-30-8; 68359-37-5; 69327-76-0 (Buprofezin); 91465-08-6 (l-Cyhalothrin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides in virgin olive oil detd. by liq.-liq. and solid-phase extn. and GC with N-P and electron capture detection); 75-05-8 (Acetonitrile); 110-54-3 (n-Hexane) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (pesticides in virgin olive oil detd. by liq.-liq. and solid-phase extn. and GC with N-P and electron capture detection)
Citations: 1) Montiel, B; IOBC/WPRS Bul 2002, 25, 1
Citations: 2) Haniotakis, E; Proceedings in IOBC/WPRS Conference on Integrated Protection of Olive Crops 2003, 1
Citations: 3) Ec; Off J Eur Commun 1976, L340, 9.12.76
Citations: 3) Ec; Off J Eur Commun 1990, L350, 14.12.90
Citations: 3) Ec; Off J Eur Commun 1993, L211
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Citations: 7) Lentza-Rizos, C; J Chromatogr A 2001, 912, 135
Citations: 8) Rastrelli, L; Food Chem 2002, 79, 303
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Citations: 10) Ramesh, A; Analyst 1998, 123, 1799
Citations: 11) Di Muccio, A; J Chromatogr A 1999, 833, 19
Citations: 12) Lentza-Rizos, C; J Chromatogr A 2001, 921, 297
Citations: 13) Chen, Z; J Chromatogr A 1996, 754, 367
Citations: 14) Barrek, S; Anal Bioanal Chem 2003, 376, 355
Citations: 15) Carabias, M; Anal Chim Acta 1995, 304, 323
Citations: 16) Aramendia, A; Food Chem 2006, 97, 181
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Citations: 21) Jongenotter, G; J High Resol Chromatogr 1997, 22, 17
Citations: 22) Hiskia, E; J Agric Food Chem 1998, 46, 570
Citations: 23) Tsatsakis, A; Food Addit Contam 2003, 20(6), 553
Citations: 24) Botitsi, E; Int J Environ Anal Chem 2004, 84, 231
Citations: 25) Cuniff, P; Official Methods of Analysis of the AOAC International, 16th ed 1995, 1, 1
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Citations: 28) National Library Of Medicine;
http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
Citations: 29) Hajslova, J; J Chromatogr A 1998, 800, 283
Citations: 30) Gonzalez, F; J Chromatogr A 2002, 966, 155 A method for the multiresidue detn. of 35 pesticides (30 insecticides and five herbicides) in olive oil by gas chromatog. (GC) is described. Three liq.-liq. extn. (LLE) procedures based on (i) partition of pesticides between acetonitrile (ACN) and oil soln. in n-hexane, (ii) partition of pesticides between satd. ACN with n-hexane and oil soln. in n-hexane satd. with ACN, and (iii) partition of pesticides between ACN and oil were tested for the optimization of the highest pesticide recoveries with the lowest oil residue in the final exts. Exptl. tests were preformed in order to study the efficiency of different clean up procedures with N-Alumina, Florisil, C18, and ENVI-Carb solid-phase extn. (SPE) cartridges for the compds. analyzed by GC-nitrogen phosphorus detection. A second step of clean up was also performed for the compds. analyzed by GC-electron capture detection (ECD), by using phenyl-bonded silica (Ph), diol-bonded silica (Diol), cyanopropyl-bonded silica (CN), and amino propyl-bonded silica (NH2) SPE cartridges. LLE of the oil soln. in hexane with ACN followed by an ENVI-Carb SPE clean up of the ext. gave the best results for all target compds. The ACN ext. was addnl. cleaned through a Diol-SPE cartridge for the detn. of pesticides analyzed mainly by GC-ECD. Pesticide recoveries form virgin olive oil spiked with 20, 100, and 500 mg/kg concns. of pesticides ranged from 70.9 to 107.4%. The proposed method featured good sensitivity, pesticide quantification limits were low enough, and the precision, expressed as relative std. deviation, ranged from 2.4 to 12.0%. The proposed method was applied successfully for the residue detn. of the selected pesticides in com. olive oil samples. [on SciFinder (R)] 0021-8561 pesticide/ olive/ oil/ extn/ GC

41. Andersen, J. H. and Poulsen, M. E (2001). Results from the monitoring of pesticide residues in fruit and vegetables on the Danish market, 1998-99. *Food Additives and Contaminants* 18: 906-931.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:694903
Chemical Abstracts Number: CAN 136:4897
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Citrus reticulata (Clementine; pesticide residues monitoring in fruit and vegetables on Danish market, 1998-99); Brassica oleracea botrytis (broccoli; pesticide residues monitoring in fruit and vegetables on Danish market, 1998-99); Brassica oleracea botrytis (cauliflower; pesticide residues monitoring in fruit and vegetables on Danish market, 1998-99); Capsicum annuum annuum (grossum group; pesticide residues monitoring in fruit and vegetables on Danish market, 1998-99); Capsicum annuum annuum (longum group; pesticide residues monitoring in fruit and vegetables on Danish market, 1998-99); Abelmoschus esculentus; Actinidia chinensis; Allium cepa; Allium fistulosum; Allium porrum; Ananas comosus; Anethum graveolens; Apium graveolens; Apium graveolens rapaceum; Asparagus officinalis; Averrhoa carambola; Blackberry; Boysenberry; Brassica oleracea acephala; Brassica oleracea capitata; Brassica oleracea gemmifera; Brassica pekinensis; Camellia sinensis; Carica papaya; Citrullus lanatus; Citrus aurantifolia; Citrus grandis; Citrus limon; Citrus paradisi; Citrus sinensis; Citrus tangelo; Colocasia esculenta; Cucumis melo; Cucumis sativus; Cucurbita pepo; Cymbopogon; Cynara scolymus; Daucus carota; Diospyros kaki; Ficus carica; Foeniculum vulgare; Food; Fortunella; Fragaria; Fruit; Juglans; Lactuca sativa; Lens culinaris; Lycopersicon esculentum; Malus pumila; Mangifera indica; Musa; Mushroom; Orange; Origanum vulgare; Passiflora edulis; Pastinaca sativa; Pesticides; Petroselinum crispum; Pisum sativum; Pleurotus ostreatus; Prunus; Prunus armeniaca; Prunus domestica; Prunus persica; Prunus persica nectarina; Punica granatum;

Pyrus communis; Raphanus sativus; Raspberry; Rheum; Ribes nigrum; Ribes uva-crispa; Sesamum indicum; Solanum melongena esculentum; Solanum tuberosum; Spinacia oleracea; Thymus; Vaccinium myrtillus; Vegetable; Vitis vinifera; Zingiber officinale (pesticide residues monitoring in fruit and vegetables on Danish market, 1998-99); Ribes (red currant; pesticide residues monitoring in fruit and vegetables on Danish market, 1998-99)
CAS Registry Numbers: 50-29-3 (DDT); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-55-9 (DDE); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 80-38-6 (Fenson); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 90-43-7 ([1,1'-Biphenyl]-2-ol); 92-52-4 (Diphenyl); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 594-07-0 (Carbamodithioic acid); 608-93-5 (Pentachlorobenzene); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1085-98-9 (Dichlofluanid); 1563-66-2 (Carbofuran); 1825-21-4 (Pentachloroanisole); 1897-45-6 (Chlorothalonil); 2227-13-6 (Tetrasul); 2310-17-0 (Phosalone); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 23103-98-2 (Pirimicarb); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-methyl); 32809-16-8 (Procymidone); 34643-46-4 (Prothiofos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55219-65-3 (Triadimenol); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl); 60207-90-1 (Propiconazole); 66246-88-6 (Penconazole); 68359-37-5 (Cyfluthrin); 82657-04-3 (Bifenthrin); 88671-89-0 (Myclobutanil) Role: AGR (Agricultural use), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence), USES (Uses) (pesticide residues monitoring in fruit and vegetables on Danish market, 1998-99)
Citations: Bech, J; Quintozene Residues in Potatoes and Carrots Publication No 22 1974
Citations: Danish Veterinary and Food Administration; Order 659 of 14th August on MRL in foods (DVFA) 1997
Citations: Danish Veterinary and Food Administration; Order 465 of 15th June on MRL in foods and feeds (DVFA) 1999
Citations: Danish Veterinary and Food Administration; Report covering the monitoring programme during (DVFA) 2000
Citations: European Communities; Official Journal of the European Communities 1979, L207, 26
Citations: European Communities; Official Journal of the European Communities 1990, L350, 71
Citations: European Union; Official Journal of the European Communities 1997, L347, 42
Citations: European Union; No publication given 1997
Citations: European Union; Official Journal of the European Communities 1997, L337, 14
Citations: European Union; Official Journal of the European Communities 1999, L128, 25
Citations: European Union; Proficiency Tests on Pesticide Residues in Fruit and Vegetables 1999
Citations: European Union; http://europa.eu.int/comm/food/fs/ph_ps/pro/eva/existing/exis02_en.pdf 2000
Citations: EN; General Criteria for the Operation of Testing Laboratories 1991
Citations: FAPAS; Protocol for the Food Analysis Performance Assessment Scheme, FAPAS 1994
Citations: Anon; Handbook of Environmental Degradation Rates 1991
Citations: Juhler, R; Journal of AOAC International 1999, 82, 337
Citations: Lund, M; the 3rd Nordic Pesticide Workshop 1998
Citations: National Agency of Environmental Protection; Register of approved pesticides from the Danish National Agency of Environmental protection (NAEP) 1986
Citations: National Agency of Environmental Protection; Report from the Danish National Agency of Environmental Protection about sales and use of pesticides in (NAEP) 1999
Citations: National Agency of Environmental Protection; Report from the Danish National

Agency of Environmental Protection about sales and use of pesticides in (NAEP) 2000
Citations: Warming, D; Technical Report 1997, 2
Citations: World Health Organization; Report on Environmental Health Criteria 1989, 91 The objective of the Danish pesticide monitoring program for fruit and vegetables was to check for compliance with the max. residue levels in foods and to monitor the residue levels to assess the pesticide exposure of the Danish population. Sampling plans were designed based on previous findings and on food consumption data. Approx. 60% of the samples were selected on the basis of pos. findings in samples from the previous 5 yr. The remaining samples reflected the pattern of food consumption in Denmark. In addn., a rolling program is maintained for commodities with a low consumption and no detected residues. Within each commodity, the sampling was random. Samples (n = 4150) of mainly fresh, conventionally grown fruit and vegetables were taken throughout the chain of suppliers including food-processing companies. Of the samples, 3% were frozen products and 2% were organically grown. Of the samples, 35% were of Danish origin, with 65% originating from other countries. Three accredited labs. performed analyses of the samples using capillary gas chromatog., liq. chromatog. and spectrophotometric methods. Results were registered online into a central database. Residues were found in 54% of the samples of fruit but only in 13% of the vegetables. Residues above the MRL were found in 4% of all samples of fruit and in 1% of vegetables. [on SciFinder (R)] 0265-203X pesticide/ contamination/ fruit/ vegetable/ Denmark

42. Anderson, Thomas E., Fletcher, William M., and Portillo, Hector E (20020307). Activity enhancement of organophosphorus insecticides. 46 pp.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:171609
Chemical Abstracts Number: CAN 136:212333
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Insecticides (activity enhancement of organophosphorus insecticides); Lepidoptera (activity enhancement of organophosphorus insecticides against); Fatty acids Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (esters, alkyl esters; activity enhancers of organophosphorus insecticides)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 78-34-2 (Dioxathion); 78-48-8 (Tribufos); 86-50-0 (Azinphos-methyl); 115-90-2 (Fensulfothion); 119-12-0 (Pyridaphenthion); 122-14-5 (Fenitrothion); 126-75-0; 141-66-2 (Dicrotophos); 144-41-2 (Morphothion); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-03-3; 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 333-41-5; 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 2275-14-1 (Phencapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2674-91-1; 2778-04-3 (Endothion); 2921-88-2 (Chlorpyrifos); 3734-95-0 (Cyanthoate); 5826-76-6 (Phosnichlor); 7173-84-4 (Danifos); 7786-34-7D (2-Carbomethoxy-1-methylvinyl dimethyl phosphate); 8065-48-3 (Demeton); 10311-84-9 (Dialifos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 14816-18-3 (Phoxim); 18854-01-8 (Isoxathion); 20276-83-9 (Prothidathion); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23505-41-1 (Pirimiphos-ethyl); 24151-93-7 (Piperophos); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 34643-46-4 (Prothiofos); 35575-96-3 (Azamethiphos); 37032-15-8 (Sophamide); 41198-08-7 (Profenofos); 42509-80-8 (Isazofos); 54593-83-8 (Chlorethoxyfos); 57018-04-9 (Tolclofos-methyl); 83733-82-8 (Fosmethilan); 95465-99-9 (Cadusafos); 96182-53-5 (Tebupirimfos); 98357-95-0 (Chlorpyrifos-dimethoate mixt.); 118548-23-5 (Dash) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (activity enhancement of organophosphorus insecticides); 111-82-0 (Methyl laurate); 112-39-0

(Methyl palmitate); 112-61-8 (Methyl stearate); 112-63-0 (Methyl linoleate); 124-10-7 (Methyl myristate) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (activity enhancer of organophosphorus insecticides)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2000-649422
Priority Application Date: 20000828 The efficacy of organophosphate insecticides is enhanced by blending with fatty acid alkyl esters. [on SciFinder (R)] A01N057-10. A01N057-28. organophosphorus/ insecticide/ activity/ enhancer

43. Andersson, A. and Paelsheden, H (1991). Comparison of the efficiency of different GLC multi-residue methods on crops containing pesticide residues. *Fresenius' Journal of Analytical Chemistry* 339: 365-7.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:183923
Chemical Abstracts Number: CAN 114:183923
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in fruit and vegetables by capillary gas chromatog., extn. methods comparison for); Actinidia chinensis; Apple; Celery; Cherry; Cucumber; Fruit; Grape; Grapefruit; Lemon; Lettuce; Mandarin orange; Nectarine; Orange; Peach; Pear; Potato; Strawberry; Tomato; Vegetable (pesticides detn. in, by capillary gas chromatog., extn. methods comparison for); Chromatography (capillary, of pesticides, extn. methods for food crops comparison for); Capsicum annuum annuum (grossum group, pesticides detn. in, by capillary gas chromatog., extn. methods comparison for); Currant (R. nigrum, pesticides detn. in, by capillary gas chromatog., extn. methods comparison for)
CAS Registry Numbers: 52-68-6; 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 76-44-8 (Heptachlor); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 86-50-0 (Azinphos-methyl); 90-43-7 (2-Phenylphenol); 99-30-9 (Dichloran); 101-21-3 (Chlorpropham); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 327-98-0 (Trichloronat); 333-41-5 (Diazinon); 485-31-4 (Binapacryl); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 959-98-8; 1024-57-3 (Heptachlorepoxide); 1031-07-8 (Endosulfan-sulfate); 1113-02-6 (Omethoate); 1825-21-4 (Pentachloroanisole); 2104-96-3 (Bromophos); 2227-13-6 (Tetrasul); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2595-54-2 (Mecarbam); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3689-24-5 (Sulfotep); 3761-41-9; 4824-78-6 (Bromophos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 21087-64-9 (Metribuzin); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9; 34643-46-4 (Prothiofos); 35554-44-0 (Imazalil); 36734-19-7

(Iprodione); 41483-43-6 (Bupirimate); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55219-65-3 (Triadimenol); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in fruit and vegetables by capillary gas chromatog., extn. methods comparison for) The efficiencies of the extn. methods with acetone and with Et acetate are compared with regard to the multi-pesticide residue detn. in fruits and vegetables. The Et acetate-method gave higher recoveries for polar pesticides and seems somewhat easier, quicker and cheaper in handling, but some co-extractives in the GC-ext. are obsd. In general, both methods gave acceptable and equiv. recoveries for the pesticides tested. [on SciFinder (R)] 0937-0633 pesticide/ extn/ detn/ food/ crop

44. Andersson, Arne (1986). Monitoring and biased sampling of pesticide residues in fruits and vegetables. Methods and results, 1981-1984. *Vaar Foeda* 38: 8-55.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1986:184997
Chemical Abstracts Number: CAN 104:184997
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (of fruits and vegetables, of Sweden); Actinidia chinensis; Apple; Apricot; Banana; Cabbage; Carrot; Cauliflower; Celery; Cherry; Chicory; Chinese cabbage; Cucumber; Dill; Fruit; Fruit and vegetable juices; Gooseberry; Grape; Grapefruit; Kale; Lemon; Lettuce; Lime; Mandarin orange; Mango; Melon; Mushroom; Nectarine; Onion; Orange; Papaya; Parsley; Parsnip; Peach; Pear; Persimmon; Plum; Potato; Radish; Salsify; Strawberry; Tomato; Vegetable; Watermelon (pesticides of, of Sweden); Beet (Swiss chard, pesticides of, of Sweden); Frozen foods (fruits, pesticides of, of Sweden); Capsicum annuum annuum (grossum group, pesticides of, of Sweden); Cucurbita (squash, pesticides of, of Sweden); Frozen foods (vegetables, pesticides of, of Sweden)
CAS Registry Numbers: 50-29-3; 55-38-9; 56-38-2; 58-89-9; 60-51-5; 60-57-1; 62-73-7; 63-25-2; 72-20-8; 72-43-5; 72-54-8; 72-55-9; 76-44-8; 80-33-1; 82-68-8; 86-50-0; 90-43-7; 92-52-4; 101-21-3; 115-29-7; 115-32-2; 116-29-0; 117-18-0; 118-74-1; 121-75-5; 122-14-5; 133-06-2; 133-07-3; 148-79-8; 298-00-0; 309-00-2; 327-98-0; 333-41-5; 470-90-6; 485-31-4; 527-20-8; 563-12-2; 594-07-0D; 608-93-5; 731-27-1; 732-11-6; 786-19-6; 950-37-8; 1024-57-3; 1085-98-9; 1113-02-6; 1563-66-2; 1897-45-6; 2104-96-3; 2310-17-0; 2425-06-1; 2540-82-1; 2595-54-2; 2642-71-9; 2764-72-9; 2921-88-2; 6923-22-4; 7786-34-7; 10265-92-6; 10605-21-7; 13457-18-6; 22248-79-9; 23103-98-2; 24017-47-8; 24959-67-9; 29232-93-7; 30560-19-1; 36734-19-7; 43121-43-3; 50471-44-8; 51630-58-1; 52645-53-1; 53014-40-7; 55219-65-3; 57837-19-1 Role: BIOL (Biological study) (of fruits and vegetables, of Sweden) About 15,000 samples of fresh fruits and vegetables were analyzed in the Swdish monitoring program in 1981-1984. Some of the samples (2.9%) contained residue levels above the Swedish max. residue limits (MRLs), and 6 of these samples exceeded the MRLs >10-fold. The percentage of samples exceeding the MRLs was smaller for domestic products than for imported products (0.3 and 4.0%, resp.). Apples, carrots, grapes, iceberg lettuce, pears, sweet peppers, potatoes, strawberries, and tomatoes also were checked for pesticide residues in the biased sampling program (anal. required before marketing because of previous residues above the MRL). Of 1056 samples analyzed, 186 (18%) exceeded the limits. No residues were found in the 356 samples of different kinds of juices or the 118 samples of canned or frozen fruits and vegetables analyzed. In the domestic samples, 33 pesticides were found at >=20% of the MRLs, and in imported samples, 62. [on SciFinder (R)] 0042-2657 pesticide/ fruit/ vegetable

45. Andersson, Arne and Ohlin, Birgit (1986). A capillary gas chromatographic multiresidue method for

determination of pesticides in fruits and vegetables. *Vaar Foeda* 38: 79-109.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1986:441335
Chemical Abstracts Number: CAN 105:41335
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Chromatography (capillary, pesticides detn. by, in fruit and vegetables); Pesticides (detn. of, in fruit and vegetables, gas chromatog.); Vegetable (pesticide detn. in, gas chromatog.); Apple; Banana; Carrot; Chinese cabbage; Citrus; Cucumber; Currant; Fruit; Grape; Lettuce; Nectarine; Peach; Pear; Plum; Potato; Raspberry; Spinach; Strawberry; Tomato (pesticides detn. in, gas chromatog.); Capsicum annuum annuum (grossum group, pesticides detn. in, gas chromatog.); Capsicum annuum annuum (longum group, pesticides detn. in, gas chromatog.); Cucurbita (pumpkin, pesticides detn. in, gas chromatog.)
CAS Registry Numbers: 50-29-3; 55-38-9; 56-38-2; 58-89-9; 60-51-5; 60-57-1; 62-73-7; 63-25-2; 72-20-8; 72-43-5; 72-54-8; 72-55-9; 76-44-8; 78-34-2; 80-33-1; 80-38-6; 82-68-8; 86-50-0; 90-43-7; 92-52-4; 99-30-9; 101-21-3; 114-26-1; 115-32-2; 115-90-2; 116-29-0; 117-18-0; 118-74-1; 121-75-5; 122-14-5; 122-42-9; 133-06-2; 133-07-3; 148-79-8; 297-97-2; 298-00-0; 299-84-3; 300-76-5; 309-00-2; 319-84-6; 319-85-7; 319-86-8; 327-98-0; 333-41-5; 470-90-6; 485-31-4; 510-15-6; 527-20-8; 563-12-2; 608-93-5; 731-27-1; 732-11-6; 786-19-6; 789-02-6; 879-39-0; 919-86-8; 944-22-9; 950-10-7; 950-37-8; 959-98-8; 973-21-7; 1014-69-3; 1024-57-3; 1031-07-8; 1031-47-6; 1085-98-9; 1113-02-6; 1194-65-6; 1563-66-2; 1825-21-4; 1897-45-6; 2032-59-9; 2032-65-7; 2104-64-5; 2104-96-3; 2227-13-6; 2310-17-0; 2425-06-1; 2439-01-2; 2540-82-1; 2595-54-2; 2597-03-7; 2636-26-2; 2642-71-9; 2921-88-2; 3244-90-4; 3481-20-7; 3689-24-5; 4824-78-6; 5103-71-9; 5131-24-8; 5566-34-7; 5598-13-0; 5836-10-2; 5915-41-3; 6164-98-3; 6923-22-4; 7173-84-4; 7786-34-7; 10265-92-6; 10311-84-9; 13171-21-6; 13457-18-6; 13593-03-8; 17040-19-6; 18181-70-9; 18181-80-1; 21087-64-9; 22248-79-9; 23103-98-2; 23505-41-1; 23950-58-5; 24017-47-8; 24934-91-6; 25311-71-1; 29232-93-7; 29973-13-5; 30560-19-1; 32809-16-8; 33213-65-9; 34643-46-4; 36734-19-7; 41198-08-7; 41483-43-6; 43121-43-3; 50471-44-8; 51630-58-1; 52315-07-8; 52645-53-1; 52918-63-5; 55219-65-3; 57837-19-1 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in fruit and vegetables, gas chromatog.) A capillary gas chromatog. multiresidue method for the detn. of pesticide residues in fruits and vegetables is described. The method involves extn. with Me2CO, followed by partitioning of the residue to hexane/CH2Cl2. The ext. is then cleaned-up by gel permeation chromatog. on an SX-3 column and, finally, the pesticides are detd. by capillary gas chromatog. using different detectors (ECD, TSD, FPD, and FID). Addnl. clean-up is necessary for some foods and is performed on a Ag-loaded alumina column or a minicolumn of silica. Quant. recoveries (> 80%) were obtained with 126 of 134 tested pesticides and metabolites. The method has been used in Sweden since 1981 and >15,000 samples have been analyzed with it. [on SciFinder (R)] 0042-2657 pesticide/ detn/ fruit/ vegetable;/ gas/ chromatog/ pesticide

46. Andrews, A. H. (1981). Abnormal Reactions and Their Frequency in Cattle Following the Use of Organophosphorus Warble Fly Dressings. *Vet.Rec.* 109: 171-175.
Chem Codes: Chemical of Concern: PSM,FNTH Rejection Code: REFS CHECKED/REVIEW.

47. Andrews, P. R. and Jeffrey, P. D. (1980). Calculated sedimentation ratios for assemblies of two, three, four, and five spatially equivalent protomers. *Biophysical Chemistry* 11: 49-59.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Sedimentation ratios of oligomeric structures containing from two to five protomers in spatially equivalent positions are calculated on the basis of equations derived by Kirkwood. A range of

oblate and prolate protomers and a systematic set of assembly modes is considered for each type of oligomer. The results are presented graphically. Dimensions in three mutually perpendicular directions are also given for each structure considered, in a format which allows calculation in A of the dimensions of appropriate models for actual molecules. Together with the results for hexameric aggregates presented previously these data allow sedimentation velocity measurements with any oligomer, up to and including the hexamer, to be analysed readily and systematically in terms of quaternary structure. http://www.sciencedirect.com/science/article/B6TFB-44GPJ9H-C3/2/aee75e192ab74250693bc38622cf59fa

48. Andrews, P. R. and Jeffrey, P. D. (1976). The use of sedimentation coefficients to distinguish between models for protein oligomers. *Biophysical Chemistry* 4: 93-102.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The sedimentation coefficients of proteins are dependent on their sizes, shapes and densities and on the density and viscosity of the solvent. However, when the sedimentation coefficients of an oligomeric protein and its protomer are measured under the same experimental conditions, the ratio of the two coefficients depends only on the protomer shape and the mode of aggregation. This property, which we shall call the sedimentation ratio, therefore provides a way of distinguishing between models for oligomeric proteins. To allow examination of the behaviour of the sedimentation ratio, sedimentation coefficients are calculated for a comprehensive range of protomer shapes and modes of aggregation in hexameric systems using equations derived by Kirkwood. As illustrations of the method the resulting sedimentation ratios are compared with experimental values for insulin and arthropod hemocyanin, which eliminates many of the possible structures for these proteins. When experimental estimates of degree of hydration and molecular dimensions are also considered, all but a group of virtually identical structures are eliminated for the insulin hexamer and a single most likely structure remains for arthropod hemocyanin. The insulin structure is in good agreement with that determined by X-ray crystallography while the hemocyanin hexameric structure is a hexagonal prism formed by the cyclic aggregation of prolate ellipsoids of axial ratio about 2.5 : 1. http://www.sciencedirect.com/science/article/B6TFB-44GPHBN-2J/2/61e5d43478173ef0711209a5b966ad1f

49. Angle, J. S. , Gross, C. M., and McIntosh, M. S. (1989). Nitrate concentrations in percolate and groundwater under conventional and No-Till Zea mays watersheds. *Agriculture, Ecosystems & Environment* 25: 279-286.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

A 3-year study was conducted to determine whether differences existed in NO3-N concentrations under soils planted to conventional and no-till corn (Zea mays L.). Defined watersheds were instrumented with wells and suction lysimeters. Wells and lysimeters were also placed on the uphill side of the watersheds in a grassed control area. Groundwater and percolate were collected monthly and analyzed for NO3-N. The NO3-N in percolate collected from the grassed control was uniformly low, averaging 2 mgl-1. Few significant differences were detected between the two tillage systems, except in 1987. During the first 5 months of 1987, the percolate NO3-N concentration collected from a depth of 1.5 m was 15 and 30 mg l-1, for the no-till and conventional-till watersheds, respectively. The groundwater NO3-N concentration was consistently lower than the concentration in the percolate. The groundwater NO3-N concentration under the grassed control was generally low, averaging 2 mg l-1. For most of the months examined, the NO3-N concentration in groundwater from the watersheds was significantly greater than from the control area. The average groundwater NO3-N concentration of the two watersheds over the entire study was approximately 9 mg l-1. No significant difference was detected between the two watersheds except for 1984. In 1984, the groundwater NO3-N concentration from the conventional-till watershed was significantly greater than from the no-till watershed. These results indicate that the concentration of NO3-N under no-till cultivation is equal to or less than the NO3-N concentration under conventional-till cultivation.
http://www.sciencedirect.com/science/article/B6T3Y-48Y1VT7-C8/2/4f547584010c677fce4fffa283f648d0

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT PESTICIDE
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOLOGY/METHODS
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: METHODS
MESH HEADINGS: PLANTS
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Symposia
KEYWORDS: Methods
KEYWORDS: Methods
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-General
KEYWORDS: Pest Control
LANGUAGE: eng

51. Angle, J. S. , Mcintosh, M. S., and Hill, R. L. (1991). Tension Lysimeters for Collecting Soil Percolate. *Nash, r. G. And a. R. Leslie (ed.). Acs (american chemical society) symposium series, 465. Groundwater residue sampling design* 199th national meeting, boston, massachusetts, usa, april 22-27, 1990. Xii+395p. American chemical society: washington, d.c., Usa. Illus. Maps. Isbn 0-8412-2091-3.; 0: 290-299.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM PESTICIDE RESIDUES GROUNDWATER CONTAMINATION
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOLOGY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: METHODS
MESH HEADINGS: PLANTS
MESH HEADINGS: SOIL
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS

MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Symposia
KEYWORDS: Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-General
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Pest Control
LANGUAGE: eng

52. Angst, Max, Rindlisbacher, Alfred, and Maienfisch, Peter (20020516). Synergistic pesticidal compositions comprising N-cyanomethyl-4-(trifluoromethyl)nicotinamide. 30 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:368234
Chemical Abstracts Number: CAN 136:381765
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Fungi; Nematoda; Virus (entomopathogenic, mixts. with N-Cyanomethyl-4-trifluoromethyl-3-pyridinecarboxamide; synergistic pesticidal compns. comprising); Embryophyta; Plants (insecticidal exts., mixts. with N-Cyanomethyl-4-trifluoromethyl-3-pyridinecarboxamide; synergistic pesticidal compns. comprising); Bacillus subtilis (mixts. with N-Cyanomethyl-4-trifluoromethyl-3-pyridinecarboxamide; synergistic pesticidal compns. comprising); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mixts. with N-Cyanomethyl-4-trifluoromethyl-3-pyridinecarboxamide; synergistic pesticidal compns. comprising); Bacillus thuringiensis (strain GC91 or NCTCl1821, mixts. with N-Cyanomethyl-4-trifluoromethyl-3-pyridinecarboxamide; synergistic pesticidal compns. comprising); Pesticide formulations (synergistic pesticidal compns. comprising n-cyanomethyl-4-(trifluoromethyl)nicotinamide); Acaricides; Insecticides (synergistic; synergistic pesticidal compns. comprising n-cyanomethyl-4-(trifluoromethyl)nicotinamide)
CAS Registry Numbers: 158062-67-0D (N-Cyanomethyl-4-trifluoromethyl-3-pyridinecarboxamide); 418757-97-8 (Acetamiprid-IKI 220 mixt.); 418757-98-9 (Silafluofen-IKI 220 mixt.); 418757-99-0 (Ethiofencarb-IKI 220 mixt.); 418758-00-6 (Chlorfluazuron-IKI 220 mixt.); 418758-01-7 (Pirimicarb-IKI 220 mixt.); 418758-02-8 (Acephate-IKI 220 mixt.); 418758-03-9 (Cypermethrin-IKI 220 mixt.); 418758-04-0 (Methidathion-IKI 220 mixt.); 418758-05-1 (Tebufenozide-IKI 220 mixt.); 418758-10-8 (Flufenoxuron-IKI 220 mixt.); 425383-53-5 (Abamectin-IKI 220 mixt.); 425383-56-8 (Azamethiphos-IKI 220 mixt.); 425383-59-1 (Bromopropylate-IKI 220 mixt.); 425383-62-6 (Chlorfenvinphos-IKI 220 mixt.); 425383-67-1 (Cyromazine-IKI 220 mixt.); 425383-70-6 (Diafenthiuron-IKI 220 mixt.); 425383-71-7 (Diazinon-IKI 220 mixt.); 425383-72-8 (Dichlorvos-IKI 220 mixt.); 425383-73-9 (Dicrotophos-IKI 220 mixt.); 425383-74-0 (Dicyclanil-IKI 220 mixt.); 425383-75-1 (Diofenolan-IKI 220 mixt.); 425383-76-2 (Disulfoton-IKI 220 mixt.); 425383-77-3 (Emamectin benzoate-IKI 220 mixt.); 425383-78-4 (Fenoxycarb-IKI 220 mixt.); 425383-79-5 (Fluazuron-IKI 220 mixt.); 425383-80-8 (Furathiocarb-IKI 220 mixt.); 425383-81-9 (Isazofos-IKI 220 mixt.); 425383-82-0 (Jodfenphos-IKI 220 mixt.); 425383-83-1 (Kinoprene-IKI 220 mixt.); 425383-84-2 (Lufenuron-IKI 220 mixt.); 425383-85-3 (Methacriphos-IKI 220 mixt.); 425383-86-4 (Methoprene-IKI 220 mixt.); 425383-87-5 (Monocrotophos-IKI 220 mixt.); 425383-88-6 (Phosphamidon-IKI 220 mixt.); 425383-89-7

(Profenofos-IKI 220 mixt.); 425383-90-0 (Pymetrozine-IKI 220 mixt.); 425383-91-1 (Quinalphos-IKI 220 mixt.); 425383-92-2 (Tau-fluvalinate-IKI 220 mixt.); 425383-93-3 (Thiamethoxam-IKI 220 mixt.); 425383-94-4 (Thiocyclam-IKI 220 mixt.); 425383-95-5 (Thiometon-IKI 220 mixt.); 425383-96-6 (Azoxystrobin-IKI 220 mixt.); 425383-97-7 (Bensultap-IKI 220 mixt.); 425383-98-8 (Bupirimate-IKI 220 mixt.); 425383-99-9 (Chlorothalonil-IKI 220 mixt.); 425384-00-5 (Fenpyroximate-IKI 220 mixt.); 425384-01-6 (Fluazinam-IKI 220 mixt.); 425384-02-7 (Flufenprox-IKI 220 mixt.); 425384-03-8 (Flutriafol-IKI 220 mixt.); 425384-04-9 (Fosthiazate-IKI 220 mixt.); 425384-05-0 (Hexaconazole-IKI 220 mixt.); 425384-06-1 (Lambda-cyhalothrin-IKI 220 mixt.); 425384-07-2 (Phosmet-IKI 220 mixt.); 425384-08-3 (Picoxystrobin-IKI 220 mixt.); 425384-09-4 (Pyridaben-IKI 220 mixt.); 425384-10-7 (Tefluthrin-IKI 220 mixt.); 425384-11-8 (Chlorfenapyr-IKI 220 mixt.); 425384-12-9 (Acrinathrin-IKI 220 mixt.); 425384-13-0 (AKD-1022-IKI 220 mixt.); 425384-14-1 (Alanycarb-IKI 220 mixt.); 425384-15-2 (Alphamethrin-IKI 220 mixt.); 425384-16-3 (Amitraz-IKI 220 mixt.); 425384-17-4 (AZ 60541-IKI 220 mixt.); 425384-18-5 (Azinphos A-IKI 220 mixt.); 425384-19-6 (Azinphos M-IKI 220 mixt.); 425384-20-9 (Azocyclotin-IKI 220 mixt.); 425384-21-0 (Aldicarb-IKI 220 mixt.); 425384-22-1 (Benfuracarb-IKI 220 mixt.); 425384-23-2 (Bifenthrin-IKI 220 mixt.); 425384-24-3 (Buprofezin-IKI 220 mixt.); 425384-25-4 (Bendiocarb-IKI 220 mixt.); 425384-26-5 (b-Cyfluthrin-IKI 220 mixt.); 425384-27-6 (BPMC-IKI 220 mixt.); 425384-28-7 (Brofenprox-IKI 220 mixt.); 425384-29-8 (Bromophos-IKI 220 mixt.); 425384-30-1 (Bufencarb-IKI 220 mixt.); 425384-31-2 (Butocarboxim-IKI 220 mixt.); 425384-32-3 (Carbofuran-IKI 220 mixt.); 425384-33-4 (Cartap-IKI 220 mixt.); 425384-34-5 (Chlorpyrifos-IKI 220 mixt.); 425384-35-6 (Clothianidin-IKI 220 mixt.); 425384-36-7 (Cadusafos-IKI 220 mixt.); 425384-37-8 (Carbaryl-IKI 220 mixt.); 425384-38-9 (Carbophenothion-IKI 220 mixt.); 425384-39-0 (Chloethocarb-IKI 220 mixt.); 425384-40-3 (Chlorethoxyfos-IKI 220 mixt.); 425384-41-4 (Chlormephos-IKI 220 mixt.); 425384-42-5 (Cis-Resmethrin-IKI 220 mixt.); 425384-43-6 (Clocythrin-IKI 220 mixt.); 425384-44-7 (Clofentezine-IKI 220 mixt.); 425384-45-8 (Cyanophos-IKI 220 mixt.); 425384-46-9 (Cycloprothrin-IKI 220 mixt.); 425384-47-0 (Cyhexatin-IKI 220 mixt.); 425384-48-1 (Deltamethrin-IKI 220 mixt.); 425384-49-2 (Diflubenzuron-IKI 220 mixt.); 425384-50-5 (Dinotefuran-IKI 220 mixt.); 425384-51-6 (Demeton M-IKI 220 mixt.); 425384-52-7 (Demeton S-IKI 220 mixt.); 425384-53-8 (Demeton-S-methyl-IKI 220 mixt.); 425384-54-9 (Dichlofenthion-IKI 220 mixt.); 425384-55-0 (Dicliphos-IKI 220 mixt.); 425384-56-1 (Diethion-IKI 220 mixt.); 425384-57-2 (Dimethoate-IKI 220 mixt.); 425384-58-3 (Dimethylvinphos-IKI 220 mixt.); 425384-59-4 (Dioxathion-IKI 220 mixt.); 425384-60-7 (Endosulfan-IKI 220 mixt.); 425384-61-8 (Edifenphos-IKI 220 mixt.); 425384-62-9 (Esfenvalerate-IKI 220 mixt.); 425384-63-0 (Ethofenprox-IKI 220 mixt.); 425384-64-1 (Ethoprophos-IKI 220 mixt.); 425384-65-2 (Etrimfos-IKI 220 mixt.); 425384-66-3 (Fenitrothion-IKI 220 mixt.); 425384-67-4 (Fenvalerate-IKI 220 mixt.); 425384-68-5 (Fipronil-IKI 220 mixt.); 425384-69-6 (Formothion-IKI 220 mixt.); 425384-70-9 (Fenamiphos-IKI 220 mixt.); 425384-71-0 (Fenazaquin-IKI 220 mixt.); 425384-72-1 (Fenbutatin oxide-IKI 220 mixt.); 425384-73-2 (Fenothiocarb-IKI 220 mixt.); 425384-74-3 (Fenpropathrin-IKI 220 mixt.); 425384-75-4 (Fenpyrad-IKI 220 mixt.); 425384-76-5 (Fenthion-IKI 220 mixt.); 425384-77-6 (Flucycloxuron-IKI 220 mixt.); 425384-78-7 (Flucythrinate-IKI 220 mixt.); 425384-79-8 (Fonophos-IKI 220 mixt.); 425384-80-1 (Methiocarb-IKI 220 mixt.); 425384-81-2 (Heptenophos-IKI 220 mixt.); 425384-82-3 (HCH-IKI 220 mixt.); 425384-83-4 (Hexaflumuron-IKI 220 mixt.); 425384-84-5 (Hexythiazox-IKI 220 mixt.); 425384-85-6 (Imidacloprid-IKI 220 mixt.); 425384-86-7 (Isoprocarb-IKI 220 mixt.); 425384-87-8 (Iprobenfos-IKI 220 mixt.); 425384-88-9 (Isofenphos-IKI 220 mixt.); 425384-89-0 (Isoxathion-IKI 220 mixt.); 425384-90-3 (Ivermectin-IKI 220 mixt.); 425384-91-4 (Methamidophos-IKI 220 mixt.); 425384-92-5 (Methomyl-IKI 220 mixt.); 425384-93-6 (Mevinphos-IKI 220 mixt.); 425384-94-7 (Malathion-IKI 220 mixt.); 425384-95-8 (Mecarbam-IKI 220 mixt.); 425384-96-9 (Mesulfenfos-IKI 220 mixt.); 425384-97-0 (Metaldehyde-IKI 220 mixt.); 425384-98-1 (Metolcarb-IKI 220 mixt.); 425384-99-2 (Milbemectin-IKI 220 mixt.); 425385-00-8 (Moxidectin-IKI 220 mixt.); 425385-01-9 (Naled-IKI 220 mixt.); 425385-02-0 (NC 184-IKI 220 mixt.); 425385-03-1 (Nitenpyram-IKI 220 mixt.); 425385-04-2 (Omethoate-IKI 220 mixt.); 425385-05-3 (Oxamyl-IKI 220 mixt.); 425385-06-4 (Oxydemeton M-IKI 220 mixt.); 425385-07-5 (Oxydeprofos-IKI 220 mixt.); 425385-08-6 (Permethrin-IKI 220 mixt.); 425385-09-7 (Phenthoate-IKI 220 mixt.); 425385-10-0 (Phorate-IKI 220 mixt.); 425385-11-1 (Phoxim-IKI 220 mixt.); 425385-12-2

(Pirimiphos-methyl-IKI 220 mixt.); 425385-13-3 (Pirimiphos-ethyl-IKI 220 mixt.); 425385-14-4 (Promecarb-IKI 220 mixt.); 425385-15-5 (Propaphos-IKI 220 mixt.); 425385-16-6 (Prothiofos-IKI 220 mixt.); 425385-17-7 (Prothoate-IKI 220 mixt.); 425385-18-8 (Pyraclofos-IKI 220 mixt.); 425385-19-9 (Pyridaphenthion-IKI 220 mixt.); 425385-20-2 (Pyresmethrin-IKI 220 mixt.); 425385-21-3 (Parathion-IKI 220 mixt.); 425385-22-4 (Parathion-methyl-IKI 220 mixt.); 425385-23-5 (Phosalone-IKI 220 mixt.); 425385-24-6 (Propoxur-IKI 220 mixt.); 425385-25-7 (Pyriproxyfen-IKI 220 mixt.); 425385-26-8 (Pyrimidifen-IKI 220 mixt.); 425385-27-9 (Teflubenzuron-IKI 220 mixt.); 425385-28-0 (Terbufos-IKI 220 mixt.); 425385-29-1 (Triazamate-IKI 220 mixt.); 425385-30-4 (Salithion-IKI 220 mixt.); 425385-31-5 (Spinosad-IKI 220 mixt.); 425385-32-6 (Sulfotep-IKI 220 mixt.); 425385-33-7 (Sulprofos-IKI 220 mixt.); 425385-34-8 (Tebupirimphos-IKI 220 mixt.); 425385-35-9 (Temephos-IKI 220 mixt.); 425385-36-0 (Terbam-IKI 220 mixt.); 425385-37-1 (Tetrachlorvinphos-IKI 220 mixt.); 425385-38-2 (Thiofanox-IKI 220 mixt.); 425385-39-3 (Thiacloprid-IKI 220 mixt.); 425385-40-6 (Thiodicarb-IKI 220 mixt.); 425385-41-7 (Thionazin-IKI 220 mixt.); 425385-42-8 (Thuringiensin-IKI 220 mixt.); 425385-43-9 (Tralomethrin-IKI 220 mixt.); 425385-44-0 (Triarathene-IKI 220 mixt.); 425385-45-1 (Triazophos-IKI 220 mixt.); 425385-46-2 (Trichlorfon-IKI 220 mixt.); 425385-47-3 (Triflumuron-IKI 220 mixt.); 425385-48-4 (Trimethacarb-IKI 220 mixt.); 425385-49-5 (Vamidothion-IKI 220 mixt.); 425385-50-8 (Xylylcarb-IKI 220 mixt.); 425385-51-9 (YI 5301/5302-IKI 220 mixt.); 425385-52-0 (Indoxacarb-IKI 220 mixt.); 425385-53-1 (Methoxyfenozide-IKI 220 mixt.); 425385-54-2 (Bifenazate-IKI 220 mixt.); 425385-55-3 (3,5-Xylyl methylcarbamate-IKI 220 mixt.); 425385-56-4 (Bitertanol-IKI 220 mixt.); 425385-57-5 (Cyproconazole-IKI 220 mixt.); 425385-58-6 (Cyprodinil-IKI 220 mixt.); 425385-59-7 (Difenoconazole-IKI 220 mixt.); 425385-60-0 (Diniconazole-IKI 220 mixt.); 425385-61-1 (Epoxiconazole-IKI 220 mixt.); 425385-62-2 (Fenpiclonil-IKI 220 mixt.); 425385-63-3 (Fludioxonil-IKI 220 mixt.); 425385-64-4 (Fluquinconazole-IKI 220 mixt.); 425385-65-5 (Flusilazole-IKI 220 mixt.); 425385-66-6 (Furalaxyl-IKI 220 mixt.); 425385-67-7 (Hymexazol-IKI 220 mixt.); 425385-68-8 (Imazalil-IKI 220 mixt.); 425385-69-9 (Imibenconazole-IKI 220 mixt.); 425385-70-2 (Ipconazole-IKI 220 mixt.); 425385-71-3 (Metalaxyl-IKI 220 mixt.); 425385-72-4 (R-Metalaxyl-IKI 220 mixt.); 425385-73-5 (Metconazole-IKI 220 mixt.); 425385-74-6 (Pefurazoate-IKI 220 mixt.); 425385-75-7 (Penconazole-IKI 220 mixt.); 425385-76-8 (Prochloraz-IKI 220 mixt.); 425385-77-9 (Propiconazole-IKI 220 mixt.); 425385-78-0 (SSF-109-IKI 220 mixt.); 425385-79-1 (Tebuconazole-IKI 220 mixt.); 425385-80-4 (Triazoxide-IKI 220 mixt.); 425385-81-5 (Triadimefon-IKI 220 mixt.); 425385-82-6 (Triadimenol-IKI 220 mixt.); 425385-83-7 (Triflumizole-IKI 220 mixt.); 425385-84-8 (Triticonazole-IKI 220 mixt.); 425385-85-9 (Uniconazole-IKI 220 mixt.); 425664-19-3 (ZA 3274-IKI 220 mixt.) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (synergistic pesticidal compns. comprising)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: CH
Priority Application Number: 2000-2189
Priority Application Date: 20001110
Citations: Erdelen, C; WO 0176369 A 2001
Citations: Anon; PATENT ABSTRACTS OF JAPAN 1998, 1998(04)
Citations: Ishihara Sangyo Kaisha Ltd; JP 09323973 A 1997
Citations: Ishihara Sangyo Kaisha; EP 0580374 A 1994 Synergistic compns. for controlling insects or representatives of the order Acarina comprise a combination of variable quantities of N-Cyanomethyl-4-trifluoromethyl-3-pyridinecarboxamide (IKI-220) in free form or in salt form, if appropriate tautomers, in free form or in salt form, and one or more of the compds., such as, for example: abamectin, azamethiphos, bromopropylate, chlorfenvinphos, cypermethrin, cypermethrin

high-cis, cyromazin, diafenthiuron, diazinon, dicrotophos, dicyclanil, emamectin, fenoxycarb, lufenuron, methidathion, monocrotophos, profenofos, pymetrozine, tau-fluvalinate, thiamethoxam, azoxystrobin, bensultap, chlorothalonil, fenpyroximate, fluazinam, flufenprox, flutriafol, lambda-cyhalothrin, phosmet, picoxystrobin, primicarb, pyridaben, tefluthrin, etc. The compns. are used for controlling pests by applying to the pests or their environment, or for protecting plant propagation material, wherein the propagation material or the site of application of the propagation material is treated. [on SciFinder (R)] A01N043-40. A01N043-40; A01N061-00. pesticide/ synergism/ cyanomethyltrifluoromethylnicotinamide/ mixt

53. Anina, I. A. (Possibility of Using Nucleic Acid Metabolic Indixes for Predicting Long-Term Consequences of the Effect of Some Pesticides. *Gig. Tr. Prof. Zabol. 3: 51-53* 1975..
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The effects of thiocarbamate pesticides (molinate, tillam, eptam), phthalophos, and DDT on the gonadal nucleic acid metabolism was examined in male rats in a study on the possible use of the metabolic changes as a prognostic factor for predicting the long-term consequences of the effects of these pesticides. The preparations were administered orally in a dose of 1/100 of LD50 during the last two months preceding sexual maturity. Molinate, phthalphos, and DDT caused a decrease in the nucleic acid level in the gonads, while tillam and eptam caused no significant changes. The disturbance in the nucleic acid metabolism in the gonads of rats treated with molinate, phthalophos, and DDT was due to their intensified decomposition and to inhibition of the nucleic acid synthesis. Similar changes were observed when the phthalophos dose was reduced to 1/300 LD50. Yalan, phthalophos, and DDT had been found to interfere with the reproductive function in earlier experiments, but tillam and eptam had no such effect. In view of this evidence, the recent findings indicate that the disturbances in the gonadal nucleic acid metabolism can be used for predicting long-term consequences of pesticides.
LANGUAGE: rus

54. Annis, Gary David, Myers, Brian James, Selby, Thomas Paul, Stevenson, Thomas Martin, and Zimmerman, William Thomas (20020620). Preparation of quinazolinones and pyridopyrimidinones for controlling invertebrate pests. 180 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 2002:465981
Chemical Abstracts Number: CAN 137:47212
Section Code: 28-16
Section Title: Heterocyclic Compounds (More Than One Hetero Atom)
CA Section Cross-References: 5
Coden: PIXXD2
Index Terms: Bacillus thuringiensis; Baculoviridae (compn. component; prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests and their use in compns. with other biol. active compds.); Eubacteria; Fungi (entomopathogenic, compn. component; prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests and their use in compns. with other biol. active compds.); Microorganism (entomopathogenic, entomopathogenic virus; compn. component; prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests and their use in compns. with other biol. active compds.); Acrosternum hilare; Acyrthosiphon pisum; Adelges; Alabama argillacea; Anasa tristis; Aphis craccivora; Aphis fabae; Aphis gossypii; Aphis pomi; Aphis spiraecola; Archips argyrospilus; Archips rosana; Aulacorthum solani; Bemisia argentifolia; Bemisia tabaci; Blissus leucopterus; Chaetosiphon; Chilo suppressalis; Cnaphalocrocis medinalis; Corythucha gossypii; Crambus caliginosellus; Crambus teterrellus; Cyrtopeltis modesta; Dialeurodes citri; Diuraphis noxia; Dysaphis plantaginea; Dysdercus suturellus; Earias insulana; Earias vitella; Empoasca fabae; Epilachna varivestis; Eriosoma lanigerum; Erythroneura; Euschistus servus; Euschistus variolarius; Frankliniella occidentalis; Grapholita pomonella; Graptostethus; Helicoverpa

armigera; Helicoverpa zea; Heliothis virescens; Herpetogramma licarsisalis; Hyalopterus pruni; Icerya purchasi; Laodelphax striatellus; Leptinotarsa decemlineata; Leptoglossus corculus; Lipaphis erysimi; Lobesia botrana; Lygus lineolaris; Macrosiphum dirhodum; Macrosiphum euphorbiae; Macrosteles quadrilineatus; Magicicada septendecim; Myzus persicae; Nasonovia ribisnigri; Nephotettix cincticeps; Nephotettix nigropictus; Nezara viridula; Nilaparvata lugens; Oebalus pugnax; Oncopeltus fasciatus; Pectinophora gossypiella; Peregrinus maidis; Phyllocnistis citrella; Phylloxera devastatrix; Pieris brassicae; Pieris rapae; Planococcus citri; Plutella xylostella; Pseudatomoscelis seriatus; Pseudococcus; Psylla pyricola; Quadraspidiotus perniciosus; Rhopalosiphum fitchii; Rhopalosiphum maidis; Schizaphis graminum; Scirtothrips citri; Sericothrips variabilis; Sitobion avenae; Sogatella furcifera; Sogatodes oryzicola; Spodoptera exigua; Spodoptera frugiperda; Spodoptera litura; Therioaphis maculata; Thrips tabaci; Toxoptera aurantii; Toxoptera citricida; Trialeurodes vaporariorum; Trichoplusia ni; Trioza diospyri; Tuta absoluta; Typhlocyba pomaria (insect; prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests); Elateridae (insect; wireworms of the genera Agriotes, Athous or Limonius; prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests); Arthropoda; Pemphigus; Pesticides (prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorbenzylate); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Beta-Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (compn. component; prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests and their use in compns. with other biol. active compds.); 438450-34-1 Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests); 438450-29-4P; 438450-30-7P; 438450-31-8P; 438450-32-9P; 438450-33-0P; 438450-35-2P; 438450-36-3P; 438450-37-4P; 438450-43-2P; 438450-44-3P; 438450-45-4P; 438450-46-5P; 438450-47-6P; 438450-48-7P; 438450-49-8P; 438450-50-1P; 438450-51-2P; 438450-52-3P; 438450-53-4P; 438450-54-5P; 438450-55-6P; 438450-56-7P; 438450-57-8P; 438450-58-9P; 438450-59-0P; 438450-60-3P; 438450-61-4P; 438450-62-5P; 438450-63-6P; 438450-64-7P; 438450-65-8P Role:

AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests); 75-31-0 (Isopropylamine); 455-14-1 (4-Trifluoromethylaniline); 2402-77-9 (2,3-Dichloropyridine); 4389-45-1 (2-Amino-3-methylbenzoic acid); 5437-38-7 (3-Methyl-2-nitrobenzoic acid); 6388-47-2 (2-Amino-3-chlorobenzoic acid); 20154-03-4 (3-Trifluoromethylpyrazole) Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests); 20776-67-4P (2-Amino-3-methyl-5-chlorobenzoic acid); 23984-82-9P (2-Methyl-4-(trifluoromethyl)benzoic acid); 62639-14-9P (2-[(Methylthio)methyl]-4-(trifluoromethyl)benzenamine); 67169-22-6P (2-Methyl-4-(trifluoromethyl)benzenamine); 68289-10-1P (2-Amino-3-methyl-N-(1-methylethyl)benzamide); 362633-61-2P (2-Methyl-N-[2-methyl-6-[[(1-methylethyl)amino]carbonyl]phenyl]-4-(trifluoromethyl)benzamide); 362640-53-7P (3-Methyl-N-(1-methylethyl)-2-nitrobenzamide); 362640-55-9P; 362640-56-0P (2-Methyl-4-(trifluoromethyl)benzonitrile); 362640-63-9P (2-Methyl-4-(trifluoromethyl)benzoyl chloride); 438450-38-5P (3-Chloro-2-[3-(trifluoromethyl)-1H-pyrazol-1-yl]pyridine); 438450-39-6P; 438450-40-9P (6-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one); 438450-41-0P (N-[4-Chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide); 438450-42-1P (8-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-4H-3,1-benzoxazin-4-one) Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of quinazolinones and pyridopyrimidinones for controlling invertebrate pests)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2000-254614
Priority Application Date: 20001211 The title compds. [I; B = O, S; J = (un)substituted Ph, naphthyl, 5-6 membered heteroarom. ring, etc.; K, together with the two contiguous liking carbon atoms = a fused Ph, or fused pyridinyl, each optionally substituted with 1-4 R4; R3 = G, alkyl, cycloalkyl, etc.; G = (un)substituted Ph, 5-6 membered heteroarom. ring, etc.; R4 = H, alkyl, haloalkyl, etc.; n = 1-4], useful for controlling invertebrate pests, were prepd. E.g. a multi-step synthesis of II which provided very good level of plant protection (20% or less feeding damage) in in test on diamondback moth (Plutella xylostella)/radish plant, was given. This invention also pertains to certain compds. I and compns. for controlling invertebrate pests comprising a biol. effective amt. of a compd. I and at least one addnl. component selected from the group consisting of surfactants, solid diluents and liq. diluents. [on SciFinder (R)] C07D239-00. quinazolinone/ pyridopyrimidinone/ prepn/ pesticide/ arthropod/ invertebrate/ pest

55. Anon (Fiscal Year 1984 Program Report: Maryland Water Resources Research Center. *Govt reports announcements & index (gra&i), issue 06, 1986*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: Within the framework of the 1984 Program of the Maryland Water Resources Research Center, three projects were focused on questions of pollution of surface and ground water and one on acid rain. An information transfer project focused on the protection of ground water supplies. In a project to assess nitrogen and phosphorus losses via subsurface ground water flow from conventional and no-till corn watersheds, evidence was obtained that the leaching of nitrates into percolate or ground water is not enhanced by the use of no-till cultivation. No phosphate was found in percolate samples from either no-till or conventional cultivation treatments. A two-year study has been conducted to assess the accumulation of toxic metals in the

sediments of Maryland's Eastern Shore rivers. In a project to determine the impact on human health of contaminants present in sludge applied as soil amendment, ground and surface water have been analyzed for mutagenic compounds. Preliminary information on acidity in rainfal
KEYWORDS: Ground water
KEYWORDS: Water supply
KEYWORDS: Water pollution

56. Anon (Guidance for the Reregistration of Pesticide Products Containing Phosmet as the Active Ingredient. *Govt reports announcements & index (gra&i), issue 02, 1987*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOX DATA.

ABSTRACT: TD3: The document contains information regarding the reregistration of pesticide products containing the subject active ingredient. The document includes how to register under a registration standard, regulatory position and rationale, and summaries of data requirements and data gaps. Also included is a bibliography containing citations of all studies reviewed by EPA in arriving at the positions and conclusions contained in the standard.
KEYWORDS: Pesticides
KEYWORDS: Reregistration
KEYWORDS: Toxic substances
KEYWORDS: Phosmet

57. Anon (2006). Insecticidal combinations containing alkoxylated amines. *Research Disclosure* 501: P18-P19.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

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Database: CAPLUS
Accession Number: AN 2006:110679
Chemical Abstracts Number: CAN 145:501047
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal; Patent
Language: written in English.
Index Terms: Amines Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (N-tallow alkyltrimethylenediamines, ethoxylated, Ethoduomeen T 25, mixts. contg.; synergistic acaricidal and insecticidal combinations); Amines Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (alkoxylated, mixts. contg.; synergistic acaricidal and insecticidal combinations); Bacillus thuringiensis (mixts. with alkoxylated amines; synergistic acaricidal and insecticidal combinations); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mixts. with alkoxylated amines; synergistic acaricidal and insecticidal combinations); Acaricides; Insecticides (synergistic; contg. alkoxylated amines)
CAS Registry Numbers: 608-73-1D (HCH) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (HCH; synergistic acaricidal and insecticidal combinations); 32345-29-2D (Dietholate) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (SV1; synergistic acaricidal and insecticidal combinations); 95465-99-9D (Sebufos) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (cadusafos; synergistic acaricidal and insecticidal combinations); 68359-37-5D (Betacyfluthrin) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (cyfluthrin; synergistic acaricidal and insecticidal combinations); 68085-85-8D (Clocythrin) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (cyhalothrin; synergistic acaricidal and insecticidal combinations); 3766-81-2D (BPMC) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (fenobucarb; synergistic acaricidal and insecticidal combinations); 119168-77-3D (Tebufenpyrad) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL

(Biological study), USES (Uses) (fenpyrad; synergistic acaricidal and insecticidal combinations); 158062-67-0D (IKI 220) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (flonicamid; synergistic acaricidal and insecticidal combinations); 111872-58-3D (Brofenprox) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (fubfenprox; synergistic acaricidal and insecticidal combinations); 103055-07-8D (CGA 184699) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (lufenuron; synergistic acaricidal and insecticidal combinations); 52-68-6D (Trichlorfon); 54-11-5D (Nicotin); 55-38-9D (Fenthion); 56-38-2D (Parathion A); 60-51-5D (Dimethoate); 62-73-7D (Dichlorvos); 63-25-2D (Carbaryl); 78-34-2D (Dioxathion); 83-79-4D (Rotenone); 86-50-0D (Azinphos M); 97-17-6D (Dichlofenthion); 114-26-1D (Propoxur); 116-06-3D (Aldicarb); 119-12-0D (Pyridaphenthion); 121-75-5D (Malathion); 122-14-5D (Fenitrothion); 124-76-5D (Isoborneol); 126-75-0D (Demeton-S); 138-86-3D (Limonene); 141-66-2D (Dicrotophos); 297-97-2D (Thionazin); 298-00-0D (Parathion M); 298-02-2D (Phorate); 298-04-4D (Disulfoton); 300-76-5D (Naled); 301-12-2D (Oxydemeton M); 333-41-5D (Diazinon); 404-86-4D (Capsaicin); 470-90-6D (Chlorfenvinphos); 563-12-2D (Ethion); 640-15-3D (Thiometon); 644-06-4D (Precocene II); 732-11-6D (Phosmet); 780-11-0D (Terbam); 786-19-6D (Carbophenothion); 919-86-8D (Demeton-S-methyl); 944-22-9D (Fonophos); 950-37-8 (Methidathion); 1081-34-1D (a-Terthienyl); 1113-02-6D (Omethoate); 1129-41-5 (Metolcarb); 1563-66-2D (Carbofuran); 1631-58-9D (Nereistoxin); 2032-65-7 (Methiocarb); 2274-67-1D (Dimethylvinphos); 2275-18-5D (Prothoate); 2275-23-2D (Vamidothion); 2310-17-0D (Phosalone); 2425-10-7D (Xylylcarb); 2540-82-1D (Formothion); 2595-54-2D (Mecarbam); 2597-03-7D (Phenthoate); 2631-37-0D (Promecarb); 2631-40-5D (Isoprocarb); 2636-26-2D (Cyanophos); 2642-71-9D (Azinphos A); 2655-14-3D (XMC (pesticide); 2674-91-1D (Oxydeprofos); 2921-88-2D (Chlorpyrifos); 3383-96-8D (Temephos); 3689-24-5D (Sulfotep); 3761-41-9D (Mesulfenphos); 3811-49-2D (Salithion); 4824-78-6D (Bromophos A); 5598-13-0D (Chlorpyrifos M); 6688-49-9D (Ryanodol); 6923-22-4D (Monocrotophos); 7292-16-2D (Propaphos); 7786-34-7D (Mevinphos); 8022-00-2D (Demeton-M); 8051-39-6D (Ethoduomeen C 13); 8065-36-9D (Bufencarb); 10265-92-6 (Methamidophos); 10453-56-2D (cis-Resmethrin); 11141-17-6D (Azadirachtin); 12407-86-2D (Trimethacarb); 13071-79-9D (Terbufos); 13121-70-5D (Cyhexatin); 13171-21-6D (Phosphamidon); 13194-48-4D (Ethoprophos); 13356-08-6D (Fenbutatin oxide); 13593-03-8D (Quinalphos); 14816-18-3D (Phoxim); 15263-53-3D (Cartap); 15662-33-6D (Ryanodine); 16752-77-5 (Methomyl); 17109-49-8D (Edifenphos); 17598-02-6D (Precocene I); 17606-31-4D (Bensultap); 18854-01-8D (Isoxathion); 20425-39-2D (Pyresmethrin); 22224-92-6D (Fenamiphos); 22248-79-9D (Tetrachlorvinphos); 22781-23-3D (Bendiocarb); 23103-98-2D (Pirimicarb); 23135-22-0D (Oxamyl); 23505-41-1D (Pirimiphos A); 23526-02-5D (Thuringiensin); 23560-59-0D (Heptenophos); 24017-47-8D (Triazophos); 24934-91-6D (Chlormephos); 25311-71-1D (Isofenphos); 26087-47-8D (Iprobenfos); 29232-93-7D (Pirimiphos M); 29973-13-5D (Ethiofencarb); 30560-19-1D (Acephate); 30864-28-9 (Methacrifos); 31895-21-3D (Thiocyclam); 33089-61-1D (Amitraz); 34643-46-4D (Prothiofos); 34681-10-2D (Butocarboxim); 35367-38-5D (Diflubenzuron); 37273-91-9 (Metaldehyde); 37893-02-0D (Flubenzimine); 38260-54-7D (Etrimphos); 39196-18-4D (Thiofanox); 39285-04-6D (Polynactin); 39515-41-8D (Fenpropathrin); 40596-69-8 (Methoprene); 41083-11-8D (Azocyclotin); 41096-46-2D (Hydroprene); 41198-08-7D (Profenofos); 42509-80-8D (Isazophos); 51570-36-6D (Milbemycin); 51596-10-2D (Milbemectin); 51630-58-1D (Fenvalerate); 52645-53-1D (Permethrin); 52918-63-5D (Deltamethrin); 54593-83-8D (Chlorethoxyfos); 55285-14-8D (Carbosulfan); 57960-19-7D (Acequinocyl); 58842-20-9D (Nithiazine); 59456-70-1D (Nikkomycin Z); 59669-26-0D (Thiodicarb); 62850-32-2D (Fenothiocarb); 63837-33-2D (Diofenolan); 63935-38-6D (Cycloprothrin); 64628-44-0D (Triflumuron); 65691-00-1D (Triarathene); 65907-30-4D (Furathiocarb); 66215-27-8D (Cyromazine); 66230-04-4D (Esfenvalerate); 66841-25-6D (Tralomethrin); 67375-30-8D (Alphamethrin); 67485-29-4D (Hydramethylnon); 69327-76-0D (Buprofezin); 69409-94-5D (Fluvalinate); 70124-77-5D (Flucythrinate); 70288-86-7D (Ivermectin); 71422-67-8D (Chlorfluazuron); 71751-41-2D (Abamectin); 72490-01-8D (Fenoxycarb); 72864-26-7D (Nikkomycin X); 73989-17-0D (Avermectin); 74115-24-5D (Clofentezine); 76703-62-3D; 78587-05-0D (Hexythiazox); 79538-32-2D (Tefluthrin); 79622-59-6D (Fluazinam); 79637-88-0D (Chloethocarb); 80060-09-9D (Diafenthiuron); 80844-07-1D

(Ethofenprox); 82560-54-1D (Benfuracarb); 82657-04-3D (Bifenthrin); 83121-18-0D (Teflubenzuron); 83130-01-2D (Alanycarb); 84466-05-7D (Amidoflumet); 84573-16-0D (Rocaglamide); 86479-06-3D (Hexaflumuron); 86811-58-7D (CGA 157419); 89784-60-1D (Pyraclofos); 91465-08-6D (lambda-Cyhalothrin); 95737-68-1D (Pyriproxyfen); 96182-53-5D (Tebupirimphos); 96489-71-3D (Pyridaben); 98886-44-3D (Fosthiazate); 101007-06-1D (Acrinathrin); 101463-69-8D (Flufenoxuron); 102130-84-7D (Nemadectin); 105024-66-6D (Silafluofen); 105779-78-0D (Pyrimidifen); 105888-54-8D (Dioxapyrrolomycin); 107713-58-6D (Flufenprox); 111988-49-9D (Thiacloprid); 112143-82-5D (Triazuron); 112226-61-6D (Halofenozide); 112410-23-8D (Tebufenozide); 112636-83-6D (Dicyclanil); 113036-88-7D (Flucycloxuron); 113507-06-5D (Moxidectin); 116714-46-6D (Novaluron); 117704-25-3D (Doramectin); 119544-94-4D (Protrifenbute); 119791-41-2D (Emamectin); 120068-37-3D (Fipronil); 120928-09-8D (Fenazaquin); 120955-77-3D (NC 184); 121451-02-3D (Noviflumuron); 122453-73-0D (Chlorfenapyr); 123312-89-0D (Pymetrozine); 129558-76-5D (Tolfenpyrad); 131929-60-7D (Spinosyn A); 131929-63-0D (Spinosyn D); 134098-61-6D (Fenpyroximate); 135410-20-7D (Acetamiprid); 138261-41-3D (Imidacloprid); 138667-71-7D (Thiangazole); 143807-66-3D (Chromafenozide); 145644-07-1D (Ulosantoin); 148477-71-8D (Spirodiclofen); 149877-41-8D (Bifenazate); 150824-47-8D (Nitenpyram); 153233-91-1D (Etoxazole); 153719-23-4D (Thiamethoxam); 154163-98-1D (Diabroticin A); 160791-64-0D (Flubrocythrinate); 161050-58-4 (Methoxyfenozide); 165252-70-0D (Dinotefuran); 168316-95-8D (Spinosad); 168678-75-9D (Propoduomeen C 13); 170015-32-4D (Flufenerim); 173584-44-6D (Indoxacarb); 179101-81-6D (Pyridalyl); 181587-01-9D (Ethiprole); 187166-54-7D (Triethoxyspinosyn A); 199062-81-2D (AZ 60541); 201593-84-2D (Bistrifluron); 209861-58-5D (Acetoprole); 210880-92-5D (Clothianidin); 217807-84-6D (Celangulin V); 220119-17-5D (Selamectin); 229977-93-9D (Fluacrypyrim); 255725-89-4D (Dicliphos); 283594-90-1D (Spiromesifen); 327162-93-6D (Ethoduomeen T 11); 875655-36-0D (Butylpyridaben); 914986-79-1D (Flurimfen); 914986-80-4D (FMC 234014); 914986-81-5D (L 14165); 914987-23-8D (Thiafenox) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (synergistic acaricidal and insecticidal combinations); 52315-07-8D (Cypermethrin) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (zetamethrin; synergistic acaricidal and insecticidal combinations) Alkoxylated amines may have synergistic acaricidal or insecticidal activity with various insecticides and/or acaricides. A list of these insecticidal and acaricidal compds. is provided. Mixts. contg. alkoxylated amines may not only comprise one of the ingredients listed, but may comprise more than one of these active compds., forming for example, three-way or four-way mixts. Such combinations of alkoxylated amines with various active ingredients may have a broader spectrum of acaridical or insecticidal activity or a higher level of intrinsic acaricidal or insecticidal activity than the active ingredients alone, i.e., there may be a synergistic effect. Such synergism can be tested using std. insecticide or acaricide assays. [on SciFinder (R)] 0374-4353 alkoxylated/ amine/ insecticide/ acaricide/ synergism

58. Anon (1969). N-(Mercaptomethyl)phthalimide S-(O,O-dimethyl phosphorodithioate) and its oxygen analog; tolerance for residues. *Federal Register* 34: 6041.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1969:429323
Chemical Abstracts Number: CAN 71:29323
Section Code: 17
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Alfalfa; Apples; Meat; Peaches; Pears ((mercaptomethyl)phthalimide (dimethylphosphorodithioate) analogs in, standards for); Standards (for (mercaptomethyl)phthalimide (dimethylphosphorodithioate) analogs in agricultural products)
CAS Registry Numbers: 732-11-6; 3735-33-9 Role: BIOL (Biological study) (in agricultural

products, standards for) Tolerances are established under the U.S. Federal Food, Drug, and Cosmetic Act for the title insecticide and its O analog (N-(mercaptomethyl)phthalimide S-(O,O-dimethyl phosphorothioate)) as follows: 40 ppm. in or on alfalfa; 10 in or on apples, peaches, and pears; 0.2 in meat and fat of cattle, goats, hogs, and sheep. [on SciFinder (R)] 0097-6326 insecticides/ residues/ foods;/ residues/ insecticides/ foods;/ foods/ insecticides/ residues;/ meat/ phosphorothioates/ residues;/ fruit/ phosphorothioates/ residues;/ phosphorothioates/ residues/ foods

59. Anon (1975). N-(Mercaptomethyl)phthalimide S-(O,O-dimethylphosphorodithioate) and its oxygen analog. Tolerances for residues. *Federal Register* 40: 11352-3.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 1975:407350
Chemical Abstracts Number: CAN 83:7350
Section Code: 17-2
Section Title: Foods
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Standards (for mercaptomethylphthalimide dimethyl phosphorodithioate and its oxygen analog, on feed and food); Meat (horse, insecticides of, stds. for); Corn; Cranberry; Feed; Nut; Pea (insecticides of, stds. for)
CAS Registry Numbers: 732-11-6; 3735-33-9 Role: BIOL (Biological study) (of feed and food, stds. for) Cf. CA 78:157944u. Tolerances are established under the Federal Food, Drug, and Cosmetic Act for residues of the title insecticide and its O analog, N-(mercaptomethyl)phthalimide S-(O,O-dimethyl phosphorothioate) as follows: almond hulls, blueberries, corn forage and fodder (including sweet corn, field corn, and popcorn), cranberries, and pea forage and hay, 10 ppm; fresh corn including sweet corn (kernel and cob, with husk removed) and corn grain (including popcorn), and peas, 0.5; meat, fat, and meat by-products of horses, 0.2; and nuts, 0.1 (negligible residue). [on SciFinder (R)] 0097-6326 insecticide/ berry/ nut/ cereal;/ feed/ insecticide

60. Anon (1974). New animal drugs for ophthalmic and topical use. N-(Mercaptomethyl) phthalimide S-(O,O-dimethyl phosphorodithioate). *Federal Register* 39: 32025-6.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1975:7582
Chemical Abstracts Number: CAN 82:7582
Section Code: 63-2
Section Title: Pharmaceuticals
Document Type: Journal
Language: written in English.
Index Terms: Mite and Tick (control of, in cattle, dimethyl phthalimidomethyl phosphorodithioate for, stds. for); Standards (for dimethyl phthalimidomethyl phosphorodithioate, for cattle tick infestation treatment)
CAS Registry Numbers: 732-11-6 Role: BIOL (Biological study) (for cattle tick infestation treatment, stds. for) The title compd. (I) [732-11-6], appropriately dild., may be used under the Federal Food, Drug, and Cosmetic Act for the control of cattle ticks on beef cattle. [on SciFinder (R)] 0097-6326 phthalimido/ phosphorodithioate/ cattle/ tick;/ std/ phthalimidophosphorodithioate

61. Anon (1971). O,O-dimethyl S-phthalimidomethyl phosphorodithioate and its oxygen analog; tolerances for residues. *Federal Register* 36: 14471-2.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1972:2634
Chemical Abstracts Number: CAN 76:2634
Section Code: 17
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Potato (dimethyl phthalimidomethyl phosphorodithioate and its oxygen analog on, standards for); Standards (for dimethyl phthalimidomethyl phosphorodithioate and its oxygen analog, on potatoes)
CAS Registry Numbers: 732-11-6; 3735-33-9 Role: BIOL (Biological study) (on potatoes, standards for) A tolerance of 0.1 ppm is established under the Federal Food, Drug, and Cosmetic Act for residues of the title insecticide (I) in or on potatoes. [on SciFinder (R)] 0097-6326
insecticide/ residue/ potato;/ phosphorodithioate/ potato

62. Anon (Pesticide Fact Sheet Number 101: Phosmet. *Govt reports announcements & index (gra&i), issue 03, 1987*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOX DATA.

ABSTRACT: TD3: The document contains up-to-date chemical information, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after one of the following actions has occurred. (1) Issuance or reissuance of a registration standard, (2) Issuance of each special review document, (3) Registration of a significantly changed use pattern, (4) Registration of a new chemical, or (5) An immediate need for information to resolve controversial issues relating to a specific chemical or use pattern.
KEYWORDS: Pesticides
KEYWORDS: Toxic substances
KEYWORDS: Phosnet

63. Anon (Superfund Record of Decision (Epa Region 2): Syncon Resins Site, Kearny, New Jersey, September 1986. *Govt reports announcements & index (gra&i), issue 18, 1987.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: The Syncon Resins site encompasses approximately 15 acres and is located in a heavily industrialized area of northern New Jersey. The Syncon Resin facility produced alkyd resin carriers for pigments, paints, and varnish products. In the production process excess xylene or toluene was separated from the wastewater and reused in subsequent reactions. The remaining wastewater was subsequently pumped to an unlined leaching pond (lagoon) to evaporate or percolate into the soil. The sampling performed during the remedial investigation indicated extensive onsite contamination in the soil, ground water, building dirt/dust, and stainless vessels and tanks. Four general classes of chemical contaminants were found onsite: organic compounds, pesticides, PCBs and metals. Final rept.
KEYWORDS: Earth fills
KEYWORDS: Industrial wastes
KEYWORDS: Hazardous materials
KEYWORDS: Waste disposal
KEYWORDS: Solid waste management
KEYWORDS: Superfund program
KEYWORDS: Land reclamation
KEYWORDS: Municipal wastes
KEYWORDS: EPA region

64. Anon (Superfund Record of Decision (Epa Region 5): Midco Ii, in. (First Remedial Action), June 1989. *Govt reports announcements & index (gra&i), issue 03, 1990*.

Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: The MIDCO II site is a seven-acre storage and disposal facility in Gary, Indiana. The surrounding area is predominantly used for industrial purposes, and includes 34 other potential hazardous waste sites. The underlying aquifer is highly susceptible to contamination from surface sources because of the high water table; however, in the vicinity of the site, the aquifer is used primarily for non-drinking water purposes. The same operator as at another Superfund site, MIDCO I, began waste operations, including drum storage at MIDCO II during the summer of 1976. Following a major fire at the MIDCO I site in January 1977, MIDCO transferred the operations from the MIDCO I site to the MIDCO II site. Operations included temporarily storing bulk liquid and drum wastes; neutralizing acids and caustics; and disposing of wastes by dumping wastes into onsite pits, which allowed wastes to percolate into the ground water. The resulting PCB-contaminated soil pile was removed and disposed of in an offsite hazard
KEYWORDS: Industrial wastes
KEYWORDS: Chemical compounds
KEYWORDS: Waste disposal
KEYWORDS: Site surveys
KEYWORDS: Hazardous materials
KEYWORDS: Waste transfer stations
KEYWORDS: Waste management
KEYWORDS: Superfund program
KEYWORDS: Remedial action
KEYWORDS: Land reclamation

65. Anon (Superfund Record of Decision (Epa Region 5): Wayne Reclamation and Recycling, Columbia City, Indiana (First Remedial Action), Final Report, March 30, 1990. *Govt reports announcements & index (gra&i), issue 24, 1991*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: The 30-acre Wayne Waste Oil site is a former oil reclamation operation and municipal landfill in Columbia City, Indiana. The site overlies a contaminated unconsolidated surficial aquifer. From 1953 to 1970, part of the site was operated as a municipal landfill. From 1975 to 1982, waste oil reclamation activities, which included the storage and handling of hazardous wastes were conducted onsite. From 1979 to 1980, an estimated 250,000 gallons of hazardous waste were illegally dumped onsite and allowed to percolate into the soil. In addition the current landfill cap is not adequate to prevent exposure of buried landfill material. Site investigations by potentially responsible parties under a Consent Order from 1988 to 1989, characterized the location and extent of remaining contaminated media, and quantified the chemical contaminants at the site. The primary contaminants of concern affecting the soil, debris, and ground water are VOCs including benzene, PCE, TCE, toluene, and xylenes; other organi
KEYWORDS: Waste disposal
KEYWORDS: Pollution control
KEYWORDS: Superfund
KEYWORDS: First remedial action-Final

66. Anonymous (Organic Phosphorus Compounds. *Tijdschr. Diergeneesk. 98(15): 723-730; 1973.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON ENGLISH.

ABSTRACT: PESTAB. Physical, chemical, and toxicological properties, physiological effects, and degradation of such anthelmintics as haloxon, coumaphos, trichlorfon, dichlorvos, and phthalophos are described. These pesticides are partly hydrolyzed and metabolized in the gastrointestinal tract of ruminants, and partial resorption takes place. The acute toxicity depends, among other things, on the particle size in the case of coumaphos and on the concentration in the case of trichlorfon. Phosphothionates are metabolized to phosphates by living organisms. The metabolites may be more toxic than the original compounds, as in the case of parathion which forms paraoxon, and coumaphos which metabolizes to coroxon. Trichlorfon is metabolized to the

equally toxic dichlorvos. Phosphates, carboxy esterases, and amidases inactivate organophoshorus compounds in the organism. Organophosphorus pesticides are eliminated rather rapidly from the system, but cause cholinesterase inhibition, parasympathetic excitation, muscular fasciculation, pareses, and depression of the respiratory center. Atropine and oximes are the best antidotes of organophosphorus pesticides.
LANGUAGE: dut

67. Anonymous (1979). Phosmet. *FAO Plant Prod.Prot.Paper* 15: 193-207.
Chem Codes: Chemical of Concern: PSM Rejection Code: REFS CHECKED/REVIEW.

68. Anspaugh, Douglas D., Armes, Nigel, Kuhn, David G., and Oloumi-Sadeghi, Hassan (20061207). Synergistic acaricidal and insecticidal mixtures comprising hydrazones. 36pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 2006:1279977
Chemical Abstracts Number: CAN 146:2111
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Parasiticides (ecto-; mixts. comprising hydrazones); Fish (ectoparasiticidal compns. for); Oxidative phosphorylation; Sodium channel blockers (inhibitors, mixts. with hydrazone derivs.; synergistic acaricidal and insecticidal compn.); Macrolides Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (insecticides, mixts. with hydrazone derivs.; synergistic acaricidal and insecticidal compn.); GABA antagonists; Nicotinic agonists; Nicotinic antagonists (mixts. with hydrazone derivs.; synergistic acaricidal and insecticidal compn.); Hormones Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. with hydrazone derivs.; synergistic acaricidal and insecticidal compn.); Insecticides (organophosphorus, mixts. with hydrazone derivs.; synergistic acaricidal and insecticidal compn.); Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (pyrethroids, mixts. with hydrazone derivs.; synergistic acaricidal and insecticidal compn.); Acaricides; Insecticides (synergistic; mixts. comprising hydrazones)
CAS Registry Numbers: 9038-14-6 (Mixed function oxidase) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (inhibitors, mixts. with hydrazone derivs.; synergistic acaricidal and insecticidal compn.); 91465-08-6D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (lambda-Cyhalothrin; synergistic acaricidal and insecticidal compn.); 51-03-6D (Piperonyl butoxide); 52-68-6D (Trichlorfon); 55-38-9D (Fenthion); 56-38-2D (Parathion); 60-51-5D (Dimethoate); 62-73-7D (Dichlorvos); 63-25-2D (Carbaryl); 86-50-0D (Azinphos-methyl); 114-26-1D (Propoxur); 115-29-7D (Endosulfan); 116-06-3D (Aldicarb); 121-21-1D (Pyrethrin I); 121-29-9D (Pyrethrin II); 121-75-5D (Malathion); 122-14-5D (Fenitrothion); 141-66-2D (Dicrotophos); 298-00-0D (Methyl-parathion); 298-02-2D (Phorate); 298-04-4D (Disulfoton); 301-12-2D (Oxydemeton-methyl); 311-45-5D (Paraoxon); 333-41-5D (Diazinon); 470-90-6D (Chlorfenvinphos); 563-12-2D (Ethion); 584-79-2D (Allethrin); 732-11-6D (Phosmet); 950-37-8D (Methidathion); 1563-66-2D (Carbofuran); 2032-65-7D (Methiocarb); 2310-17-0D (Phosalone); 2312-35-8D (Propargite); 2597-03-7D (Phenthoate); 2921-88-2D (Chlorpyriphos); 5598-13-0D (Chlorpyriphos-methyl); 6923-22-4D (Monocrotophos); 7696-12-0D (Tetramethrin); 7704-34-9D (Sulfur); 7786-34-7D (Mevinphos); 10265-92-6D (Methamidophos); 10453-86-8D (Resmethrin); 11141-17-6D (Azadirachtin); 13071-79-9D (Terbufos); 13121-70-5D (Cyhexatin); 13171-21-6D (Phosphamidon); 13356-08-6D (Fenbutatin oxide); 14816-18-3D (Phoxim); 15263-53-3D (Cartap); 16752-77-5D (Methomyl); 18854-01-8D (Isoxathion); 22248-79-9D (Tetrachlorvinphos); 22781-23-3D (Bendiocarb); 23031-36-9D (Prallethrin); 23103-98-2D (Pirimicarb); 23135-22-0D (Oxamyl); 24017-47-8D (Triazophos); 29232-93-7D (Pirimiphos-methyl); 30560-19-1D (Acephate); 31895-21-3D (Thiocyclam); 34643-46-4D (Prothiophos); 35367-38-5D (Diflubenzuron); 35400-43-2D (Sulprophos); 35575-96-3D (Azamethiphos); 39515-40-7D (Cyphenothrin); 39515-41-8D (Fenpropathrin); 40596-69-8D (Methoprene); 41198-08-7D

(Profenofos); 51596-10-2D (Milbemectin); 51630-58-1D (Fenvalerate); 52315-07-8D (Cypermethrin); 52645-53-1D (Permethrin); 52918-63-5D (Deltamethrin); 55285-14-8D (Carbosulfan); 57960-19-7D (Acequinocyl); 59669-26-0D (Thiodicarb); 63837-33-2D (Diofenolan); 64628-44-0D (Triflumuron); 65907-30-4D (Furathiocarb); 66215-27-8D (Cyromazine); 66230-04-4D (Esfenvalerate); 66841-25-6D (Tralomethrin); 67375-30-8D (Alpha-Cypermethrin); 67485-29-4D (Hydramethylnon); 68085-85-8D (Cyhalothrin); 68359-37-5D (Cyfluthrin); 69327-76-0D (Buprofezin); 71422-67-8D (Chlorfluazuron); 71751-41-2D (Abamectin); 72490-01-8D (Fenoxycarb); 72963-72-5D (Imiprothrin); 74115-24-5D (Clofentezine); 78587-05-0D (Hexythiazox); 79538-32-2D (Tefluthrin); 80060-09-9D (Diafenthiuron); 80844-07-1D (Etofenprox); 82560-54-1D (Benfuracarb); 82657-04-3D (Bifenthrin); 83121-18-0D (Teflubenzuron); 83130-01-2D (Alanycarb); 84466-05-7D (Amidoflumet); 86479-06-3D (Hexaflumuron); 89583-90-4D (Benclothiaz); 95737-68-1D (Pyriproxyfen); 96489-71-3D (Pyridaben); 101463-69-8D (Flufenoxuron); 102851-06-9D (Tau-fluvalinate); 103055-07-8D (Lufenuron); 105024-66-6D (Silafluofen); 111988-49-9D (Thiacloprid); 112143-82-5D (Triazamate); 112226-61-6D (Halofenozide); 112410-23-8D (Tebufenozide); 113036-88-7D (Flucycloxuron); 116714-46-6D (Novaluron); 118712-89-3D (Transfluthrin); 119168-77-3D (Tebufenpyrad); 119791-41-2D (Emamectin); 120068-37-3D (Fipronil); 120928-09-8D (Fenazaquin); 122431-24-7D (Flupyrazofos); 122453-73-0D (Chlorfenapyr); 123312-89-0D (Pymetrozine); 129558-76-5D (Tolfenpyrad); 135410-20-7D (Acetamiprid); 136516-19-3D; 138261-41-3D (Imidacloprid); 139968-49-3D (Metaflumizone); 145767-97-1D (Vaniliprole); 148477-71-8D (Spirodiclofen); 149877-41-8D (Bifenazate); 150824-47-8D (Nitenpyram); 153233-91-1D (Etoxazole); 153719-23-4D (Thiamethoxam); 156819-70-4D; 156820-38-1D; 158062-67-0D (Flonicamid); 161050-58-4D (Methoxyfenozide); 165252-70-0D (Dinotefuran); 168316-95-8D (Spinosad); 170015-32-4D (Flufenerim); 173584-44-6D (Indoxacarb); 179101-81-6D (Pyridalyl); 181587-01-9D (Ethiprole); 203313-25-1D (Spirotetramat); 208652-17-9D; 209861-58-5D (Acetoprole); 210880-92-5D (Clothianidin); 223419-20-3D (Profluthrin); 229977-93-9D (Fluacrypyrim); 271241-14-6D (Dimefluthrin); 272451-65-7D (Flubendiamide); 283594-90-1D (Spiromesifen); 315208-17-4D (Pyrafluprole); 394730-71-3D (Pyriprole); 400882-07-7D (Cyflumetofen); 560121-52-0D (Cyenopyrafen); 858121-22-9D; 858121-23-0D; 858121-29-6D; 858121-40-1D; 858121-44-5D; 858121-70-7D; 858121-82-1D; 863549-51-3D (Lepimectin); 913625-73-7D; 915301-19-8; 915301-20-1; 915301-21-2; 915301-22-3; 915301-23-4 Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses)   (synergistic acaricidal and insecticidal compn.)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2005-687111
Priority Application Date: 20050603
Citations: American Cyanamid Company; EP 0604798 A 1994
Citations: Furch, J; ACS SYMPOSIUM SERIES, USA SERIES: ACS SYMPOSIUM SERIES 1998, 178
Citations: Furch, J; ACS NATIONAL MEETINGS 1994
Citations: Kuhn, D; ACS SYMPOSIUM SERIES, USA SERIES: ACS SYMPOSIUM SERIES 1998, 185
Citations: Kuhn, D; ACS NATIONAL MEETINGS 1994 Synergistic acaricidal and insecticidal mixts. comprise the hydrazones I [W = Cl or CF3; X, Y = Cl or Br; R1 = alkyl, alkenyl, alkynyl, etc.; R2CR3 = (halo)cycloalkyl; R4 = halo or alkyl] or I enantiomers or salts in mixt. with organophosphorus or carbamate insecticides, insecticides, insect growth regulators, nicotinic receptor agonists and antagonists, etc. [on SciFinder (R)] synergism/ acaricide/ insecticide/ mixt/

hydrazone/ deriv

69. Aplada-Sarlis, P., Malatou, P. T., Miliadis, G. E., and Liapis, K. S. (1997). Residues of Organophosphorous and Organochlorine Pesticides in Raw Agricultural Products of Plant Origin Imported in Greece. *Annales de l'institut phytopathologique benaki* 18: 41-52.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. In 360 raw agricultural products imported in our country from countries non members of the European Union (245 of them were potatoes originating from Egypt) chemical analyses were performed for the determination of organophosphorus and organochlorine pesticide residues. In 14% of the samples, residues of organophosphorus and organochlorine pesticides were detected, while 1.7% of the samples contained residues above the Maximum Residue Limits (MRLs) which have been established from European Union or other International Organizations. The analytical methods used include gas-chromatography and GC-Mass spectrometry, and were assessed for efficiency, accuracy, repeatability as well as for the succeeded sensitivity of the above pesticides.
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Toxicology-Foods
KEYWORDS: Pest Control
LANGUAGE: eng

70. Aplada-Sarlis, P. and Miliadis, G. E (2001). Monitoring of agricultural products in Greece for residues of pesticides. *Fresenius Environmental Bulletin* 10: 423-425.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:862742
Chemical Abstracts Number: CAN 136:133814
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Fruit; Pesticides; Vegetable (pesticide residue monitoring of agricultural products in Greece)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion-ethyl); 60-51-5 (Dimethoate); 115-29-7 (Endosulfan); 298-00-0 (Parathion-methyl); 563-12-2 (Ethion); 732-11-6 (Phosmet); 1897-45-6 (Chlorothalonil); 2164-08-1 (Lenacil); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 13457-18-6 (Pyrazophos); 36734-19-7 (Iprodione); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 52315-07-8 (Cypermethrin)
Role: ADV (Adverse effect, including toxicity), AGR (Agricultural use), BIOL (Biological study), USES (Uses) (pesticide residue monitoring of agricultural products in Greece)
Citations: 1) Aplada-Sarlis, P; Annls Inst Phytopathol Benaki 1997, 18, 41
Citations: 2) Ministry of Public Health Welfare and Sport; Analytical methods for pesticide residues in foodstuffs. Sixth edition 1996

Citations: 3) FAO/WHO; Residues of pesticides in food and animal feed 1999
Citations: 4) United States Department of Agriculture; Annual summary calendar year 1998, 17 A total of 171 samples of fruit and vegetables were investigated by multiresidue anal. for residues of pesticides. In 26% of the samples at least one pesticide was detected, while 4.6% of the samples were reported as presumptive tolerance violations. 18 Pesticides were detected in the samples. Residues were detected with higher frequency in domestic rather than in imported samples, but most violations recorded were from samples of imported products. [on SciFinder (R)] 1018-4619
pesticide/ residue/ fruit/ vegetable/ Greece

71. Appa Rao, K. B., Mohan, D., and Totey, S. M. (Polymerase Chain Reaction and Its Applications: Special Emphasis on Its Role in Embryo Sexing. *Biotechnol adv. 1994; 12(2):341-55. [Biotechnology advances]: Biotechnol Adv*.
Chem Codes: Chemical of Concern: PSM Rejection Code: METHODS.

ABSTRACT: The polymerase chain reaction (PCR) has developed into one of the most promising methods for in vitro enzymatic amplification of DNA and has found widespread application in DNA cloning, sequencing and mutagenesis related studies. This innovative technique can selectively amplify a single target DNA molecule a billion-fold in a span of a few hours. Amplification of specific DNA sequences by PCR is useful in identification of sex, novel genes, pathogens and diseases. PCR has facilitated the establishment of evolutionary relationships among species and in revealing structural intricacies of single cells. In this article we review some of the major advances and applications of PCR, especially, its role in embryo sexing.
LANGUAGE: eng

72. Appas, J., Kieffer, L., and Sigwalt, D. ([A Case of Salmonellosis Due to &Quot;S. Agama&Quot;]. *Arch fr pediatr. 1966, dec; 23(10):1197-200. [Archives francaises de pediatrie]: Arch Fr Pediatr*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

MESH HEADINGS: *Fruit
MESH HEADINGS: Humans
MESH HEADINGS: Infant
MESH HEADINGS: Male
MESH HEADINGS: *Salmonella Food Poisoning
MESH HEADINGS: *Salmonella Infections
LANGUAGE: fre
TRANSLIT/VERNAC TITLE: Un cas de salmonellose à. "S. agama".

73. Araguas-Araguas, L., Rozanski, K., Gonfiantini, R., and Louvat, D. (1995). Isotope effects accompanying vacuum extraction of soil water for stable isotope analyses. *Journal of Hydrology* 168: 159-171.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The vacuum distillation method of extracting soil water for stable isotope analysis was tested for three different types of soil characterized by high water content: (1) pure sand, (2) cambisol with high organic matter content, developed on calcareous sandstone under temperate climatic conditions (Austria), and (3) tropical latosol poor in organic matter, developed on sandy clay sediment (Brazil). The method yields accurate and reproducible results for sand, provided that more than 98% of the original soil water is extracted. The time required for complete extraction is a function of sample size and the applied extraction temperature. Column experiments with the clayey soils revealed existence of a weakly bound, easily exchangeable pool of water which is isotopically different from the mobile water. The experiments showed that the extracted soil water is depleted in both deuterium and oxygen-18 by 5-10% and 0.3-0.5%, respectively, when compared with the percolate (mobile water). This depletion depends strongly on the soil type. The reproducibility for replicate extractions of soil water from clayey soils is around +/-3% and 0.3% for [delta]D and [delta] 18O, respectively. http://www.sciencedirect.com/science/article/B6V6C-3Y6HJFJ-V/2/fe136455ccad576be1970deae2f46e87

74. Archer, T. E. and Crosby, D. G (1966). Gas chromatographic measurement of toxaphene in milk, fat, blood, and alfalfa hay. *Bulletin of Environmental Contamination and Toxicology* 1: 70-5.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1966:442060
Chemical Abstracts Number: CAN 65:42060
Section Code: 70
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Blood; Milk (analysis, detn. of toxaphene); Fats (toxaphene detn. in); Alfalfa (toxaphene detn. in hay from, calcns. in)
CAS Registry Numbers: 298-03-3 (Derived from data in the 7th Collective Formula Index (1962-1966); 732-11-6 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with N-(mercaptomethyl)phthalimide) (chromatography of); 8001-35-2 (Toxaphene) (detn. of, in alfalfa hay, blood, fats and milk) The samples were extd. according to Crosby and Archer (CA 64, 20549b) except that benzene replaced pentane, and gave higher recoveries. The column was 9 ft. * 1/8 in., packed with 60-80-mesh, HMDS-treated Chromosorb W coated with 5% Dow 710 silicone oil and 5% SE gum rubber. The first ft. of the column was packed with 20-30-mesh CaC2 to remove traces of H2O and alc.; N was the carrier gas, and the flow rate was 40-60 ml./min. The column, detector, and injector temps. were 200, 190, and 250 Deg, resp. An electron-capture detector was used. The reproducible single peak obtained could not be confused with those of the DDT group. Recoveries from samples fortified with 0.1 and 0.5 ppm. were 74-95%. Nanogram quantities could be detected reproducibly. [on SciFinder (R)] 0007-4861

75. Arnt, J., S&Aacute, Nchez, C., Lenz, S. M., Madsen, U., and Krogsgaard-Larsen, P. (Differentiation of in Vivo Effects of Ampa and Nmda Receptor Ligands Using Drug Discrimination Methods and Convulsant/Anticonvulsant Activity. *Eur j pharmacol. 1995, oct 24; 285(3):289-97. [European journal of pharmacology]: Eur J Pharmacol*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: The discriminative stimulus properties of the AMPA ((RS)-2-amino-3-(3-hydroxy-5-methylisoxazol-4-yl)propionic acid) receptor agonist ATPA ((RS)-2-amino-3-(3-hydroxy-5-tert-butylisoxazol-4-yl)propionic acid) and NMDA (N-methyl-D-aspartic acid) in rats have been characterized. It is suggested that the cues are mediated by separate mechanisms in the central nervous system. The ATPA cue is not mimicked by NMDA or an NMDA receptor agonist, and is inhibited by the AMPA receptor antagonist (R)-APPA ((R)-2-amino-3-(3-hydroxy-5-phenylisoxazol-4-yl)propionic acid) but not the AMPA receptor antagonist ATOA ((RS)-2-amino-3-(3-carboxymethoxy-5-tert-butylisoxazol-4-yl)propio nic acid) or the NMDA receptor antagonist CPP ((RS)-3-(2-carboxypiperazin-4-yl)propyl)phosphonic acid). The ATPA cue is not mimicked by AMPA which is believed not to penetrate the blood-brain barrier. In contrast, ATPA does not generalize to the NMDA cue, which is mimicked by some NMDA receptor agonists (tetrazol-5-yl-glycine and AMAA ((RS)-2-amino-2-(3-hydroxy-5-methylisoxazol-4-yl)acetic acid)) and is inhibited by the NMDA receptor antagonist CPP. Highly potent convulsant activity was demonstrated in mice with all AMPA and NMDA receptor agonists after intracerebroventricular (i.c.v.) injection, whereas weaker or no effects were found after subcutaneous (s.c.) or intravenous injection. Only (RS)-tetrazol-5-yl-glycine had a potent effect after s.c. administration. I.c.v. ATOA and CPP inhibited convulsions induced by i.c.v. injection of AMPA or NMDA, while (R)-APPA was ineffective. These results indicate that there are differences in the structure-activity relations in the drug discrimination and convulsant/anticonvulsant models, even when effects after i.c.v. and s.c. injection are taken into consideration. The convulsion models are rapid tests which can give an indication of central nervous system penetration, but are less pharmacologically specific with respect to differentiation between AMPA and NMDA ligands where cue models demonstrate clear differences in effects of ligands with selectivity for receptor subtypes.

MESH HEADINGS: Animals
MESH HEADINGS: Anticonvulsants/*pharmacology
MESH HEADINGS: Convulsants/*pharmacology
MESH HEADINGS: Cues
MESH HEADINGS: Discrimination (Psychology)/*drug effects
MESH HEADINGS: Discrimination Learning/drug effects
MESH HEADINGS: Excitatory Amino Acid Agonists/pharmacology
MESH HEADINGS: Isoxazoles/pharmacology
MESH HEADINGS: Ligands
MESH HEADINGS: Male
MESH HEADINGS: Mice
MESH HEADINGS: N-Methylaspartate/pharmacology
MESH HEADINGS: Propionates/pharmacology
MESH HEADINGS: Rats
MESH HEADINGS: Rats, Wistar
MESH HEADINGS: Receptors, AMPA/*agonists/*antagonists &amp
MESH HEADINGS: inhibitors
MESH HEADINGS: Receptors, N-Methyl-D-Aspartate/*agonists/*antagonists &amp
MESH HEADINGS: inhibitors
MESH HEADINGS: Seizures/chemically induced/prevention &amp
MESH HEADINGS: control
MESH HEADINGS: alpha-Amino-3-hydroxy-5-methyl-4-isoxazolepropionic Acid/pharmacology
LANGUAGE: eng

76. Asami, Koji and Yonezawa, Takeshi (1995). Dielectric behavior of non-spherical cells in culture. *Biochimica et Biophysica Acta (BBA) - General Subjects* 1245: 317-324.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

In order to study dielectric behavior of non-spherical cells growing in suspension culture, a dielectric theory has been developed based on the shell-ellipsoid model that is a conducting ellipsoid covered with a thin insulating shell. The theory predicts three dielectric relaxations for a suspension of ellipsoidal cells with three different semiaxes. For prolate spheroidal cells with two different semiaxes that show two dielectric relaxations the effect of the axial ratio on the dielectric relaxations was examined in detail. The low-frequency relaxation attributed to the component along the major axis strongly depends on the axial ratio, while the high-frequency relaxation due to the component along the minor axis is rather insensitive to the axial ratio. The theory is also applicable to simulation of dielectric behavior of yeast cells in synchronized and asynchronized culture by assuming that budding yeast cells are prolate spheroids. Dielectric relaxation/ Permittivity/ Interfacial polarization/ Non-spherical cell/ Synchronized culture/ Growth curve
http://www.sciencedirect.com/science/article/B6T1W-3XX6V8X-8/2/e240f8838dde23a4af5df2d6583c193a

77. Asay, M. J. and Boyd, S. K. (Characterization of the Binding of [3h]Cgp54626 to Gabab Receptors in the Male Bullfrog (Rana Catesbeiana). *Brain res. 2006, jun 13; 1094(1):76-85. [Brain research]: Brain Res*.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ABSTRACT: Gamma-aminobutyric acid (GABA) is the main inhibitory neurotransmitter in the vertebrate brain. GABA activates both ionotropic (GABA(A)) and metabotropic (GABA(B)) receptors in mammals. Whether non-mammalian vertebrates possess receptors with similar characteristics is not well understood. We used a mammalian GABA(B)-specific antagonist to determine the pharmacology of putative receptors in the brain of an anuran amphibian, the male bullfrog (Rana catesbeiana). Receptor binding assays with the antagonist [(3)H]CGP54626 revealed a single class of high affinity binding sites (with a K(D) of 2.97 nM and a B(max) of 2619 fmol/mg protein). Binding was time- and temperature-dependent, saturable and specific. Specific binding of [(3)H]CGP54626 was inhibited by several mammalian GABA(B) receptor

agonists and antagonists. The rank order potency of agonists was: GABA = SKF97541 > (R)-Baclofen > 3-APPA. The rank order for antagonists was: CGP54626 = CGP55845 > CGP52432 > CGP35348. The GABA(A) receptor ligands muscimol and SR95531 had very low affinity for [(3)H]CGP54626 binding sites, while bicuculline compounds had no affinity. Binding of GABA was positively modulated by CGP7930. Taurine did not allosterically modulate GABA binding but did inhibit [(3)H]CGP54626 binding in a linear fashion. Bullfrog brain thus possesses binding sites with significant similarity to mammalian GABA(B) receptors. These receptors differ from mammalian receptors, however, in dissociation kinetics, ligand specificity and allosteric modulation.
MESH HEADINGS: Allosteric Regulation/drug effects/physiology
MESH HEADINGS: Animals
MESH HEADINGS: Binding Sites/drug effects/physiology
MESH HEADINGS: Binding, Competitive/drug effects/*physiology
MESH HEADINGS: Brain/*metabolism
MESH HEADINGS: Cell Membrane/*metabolism
MESH HEADINGS: Drug Interactions/physiology
MESH HEADINGS: GABA Agonists/metabolism
MESH HEADINGS: GABA Antagonists/metabolism
MESH HEADINGS: Male
MESH HEADINGS: Neural Inhibition/physiology
MESH HEADINGS: Neurons/drug effects/metabolism
MESH HEADINGS: Organophosphorus Compounds/*metabolism
MESH HEADINGS: Radioligand Assay
MESH HEADINGS: Rana catesbeiana/*metabolism
MESH HEADINGS: Receptors, GABA-B/chemistry/drug effects/*metabolism
MESH HEADINGS: Subcellular Fractions
MESH HEADINGS: Taurine/metabolism
MESH HEADINGS: Temperature
MESH HEADINGS: Time Factors
MESH HEADINGS: Tritium
MESH HEADINGS: gamma-Aminobutyric Acid/metabolism
LANGUAGE: eng

78. Aschmann, S. G., Mcintosh, M. S., Angle, J. S., and Hill, R. L. (1992). Nitrogen Movement Under a Hardwood Forest Amended With Liquid Wastewater Sludge. *Agric ecosyst environ* 38: 249-263.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Owing to the limited quantity of agricultural land available for sludge disposal near urban centers, forests are being considered as potential land application sites. A major environmental concern regarding forest sludge application is the potential for nitrate leaching and subsequent groundwater contamination. This study was conducted to determine the effect of different sludge application rates on soil nitrogen (N) movement in a mature, mixed hardwood forest in Maryland (USA). Liquid municipal sewage sludge was applied to a forest at dry rate equivalents of 0, 3, 6, and 12 Mg ha-1 and loading rates of 0, 200, 400, or 800 kg total N ha- (one time application). Soil percolate samples were collected from November 1986 to June 1988 using suction lysimeters placed at 80 cm soil depth and analyzed for NO3-N. Soil was also sampled to a depth of 180 cm and analyzed for NO3-N each spring and fall from 1986 to 1988. One year after application, NO3-N concentrations in the soil pe
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE

MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: METHODS
MESH HEADINGS: PLANTS
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: TREES
MESH HEADINGS: PLANTS
KEYWORDS: General Biology-Conservation
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-General
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Forestry and Forest Products
KEYWORDS: Angiospermae
LANGUAGE: eng

79. Ashokkumar, N., Pari, L., and Rao, C. H. A. (Effect of N-Benzoyl-D-Phenylalanine and Metformin on Insulin Receptors in Neonatal Streptozotocin-Induced Diabetic Rats: Studies on Insulin Binding to Erythrocytes. *Arch physiol biochem. 2006, jul; 112(3):174-81. [Archives of physiology and biochemistry]: Arch Physiol Biochem.*
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

ABSTRACT: In the present study, we focused on the insulin-receptor binding in circulating erythrocytes of N-benzoyl-D-phenylalanine (NBDP) and metformin in neonatal streptozotocin (nSTZ)-induced male Wistar rats. We measured blood levels of glucose and plasma insulin and the binding of insulin to cell-membrane ER receptors in NBDP and metformin-treated diabetic rats. The mean specific binding of insulin to ER was significantly lower in diabetic control rats (DC) (53.0 +/- 3.1%) than in NBDP (62.0 +/- 3.1%), metformin (66.0 +/- 3.3%) and NBDP and metformin combination-treated (72.0 +/- 4.2%) diabetic rats, resulting in a significant decrease in plasma insulin. Scatchard plot analysis demonstrated that the decrease in insulin binding was accounted for by a lower number of insulin receptor sites per cell in DC rats when compared with NBDP and metformin-treated rats. High-affinity (Kd1), low-affinity (Kd2), and kinetic analysis revealed an increase in the average receptor affinity in ER from NBDP and metformin-treated diabetic rats having NBDP 2.0 +/- 0.10 x 10(-10) M(-1) (Kd1); 12.0 +/- 0.85 x 10(-8) M(-1) (Kd2), Metformin 2.1 +/- 0.15 x 10(-10) M(-1) (Kd1); 15.0 +/- 0.80 x 10(-8) M(-1) (Kd2), NBDP and metformin 2.7 +/- 0.10 x 10(-10) M(-1) (Kd1); 20.0 +/- 1.2 x 10(-8) M(-1) (Kd2) compared with 0.9 +/- 0.06 x 10(-10) M(-1) (Kd1); 6.0 +/- 0.30 x 10(-8) M(-1) (Kd2) in DC rats. The results suggest an acute alteration in the number of insulin receptors on ER membranes in nSTZ induced diabetic control rats. Treatment with NBDP along with metformin significantly improved specific insulin binding, with receptor number and affinity binding reaching almost normal non-diabetic levels. The data presented here show that NBDP along with metformin increase total ER membrane insulin binding sites with a concomitant significant increase in plasma insulin.
MESH HEADINGS: Animals
MESH HEADINGS: Animals, Newborn
MESH HEADINGS: Binding, Competitive
MESH HEADINGS: Blood Glucose/analysis
MESH HEADINGS: Diabetes Mellitus, Experimental/chemically induced/*metabolism
MESH HEADINGS: Erythrocyte Membrane/*metabolism
MESH HEADINGS: Female
MESH HEADINGS: Hyperglycemia/chemically induced/pathology

MESH HEADINGS: Hypoglycemic Agents/pharmacology
MESH HEADINGS: Insulin/blood/*metabolism
MESH HEADINGS: Male
MESH HEADINGS: Metformin/*pharmacology
MESH HEADINGS: Phenylalanine/*analogs &amp
MESH HEADINGS: derivatives/pharmacology
MESH HEADINGS: Pregnancy
MESH HEADINGS: Protein Binding/drug effects
MESH HEADINGS: Rats
MESH HEADINGS: Rats, Wistar
MESH HEADINGS: Receptor, Insulin/*metabolism
MESH HEADINGS: Streptozocin
LANGUAGE: eng

80. Atabayev, S. H. T. and Iskandarov, T. I. (Theoretical and Practical Aspects of the Hygiene of the Use of Pesticides in a Hot Climate. *Med. Zh. Uzb.8: 16-23; 1973*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: PESTAB Studies on the theoretical and practical problems of the use of pesticides under a hot climate are reviewed. Pesticides accumulated more readily in soils with high organic matter content than in those with low organic content and were more easily accessible for plants from the latter type soils. Many pesticides like dimethoate and phthalophos cause persistent reduction in the vitamin C level in lemon and tomato even after the pesticides are no longer detectable. A study of the combined effects of high temperature (35 C) and anthio formothion, butyphos DEF, methylmercaptophos, BHC, and lindane in experimental animals revealed acute oral LD50 values of 122, 136, 76, 632, and 305 mg/kg, under normal temperature conditions, against 85, 80, 54, 370, and 215 mg/kg at high temperature. The changes in the electrolyte balance, blood picture, and blood cholinesterase activity were more pronounced under high-temperature conditions than under normal conditions in chronic poisoning tests. Reduced cholinesterase activity, increased sodium and potassium levels, and reduced choline level in the blood were determined in farm workers exposed to pesticides at high temperature. An extensive survey of rural populations in areas with massive use of pesticides revealed changes in the morbidity due to ischemic heart disease, respiratory troubles, malignant neoplasia, stillbirth and abortion, changes in the blood protein composition, and nearly constant presence of antibodies to organophosphorus and organochlorine pesticides in the blood.
LANGUAGE: rus

81. Atlung, T., Nielsen, A., and Hansen, F. G. (Isolation, Characterization, and Nucleotide Sequence of Appy, a Regulatory Gene for Growth-Phase-Dependent Gene Expression in Escherichia Coli. *J bacteriol. 1989, mar; 171(3):1683-91. [Journal of bacteriology]: J Bacteriol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: A plasmid carrying a regulator gene, designated appY, was found in the screening of an Escherichia coli gene library for clones overproducing AppA, an acid phosphatase which is induced as a culture approaches the stationary phase. In cells containing multicopy plasmids carrying the appY gene, the expression of the chromosomal appY gene was stimulated 10- to 40-fold in the stationary phase and more than 100-fold during exponential growth. The appA plasmid also changed the rate of synthesis of more than 30 other proteins in a growth-phase-dependent way. The appY gene was mapped to 13 min on the E. coli genetic map. The position of the appY gene on the 4.9-kilobase HindIII fragment of the original clone was located by Tn5 mutagenesis and deletion analysis, and the nucleotide sequence of a 1.9-kilobase region containing the gene was determined. The appY gene product was identified as a weakly expressed 243-amino-acid polypeptide which contains a stretch of 20 amino acids showing very good similarity to the conserved DNA-binding domain of repressors and transcriptional activators.
MESH HEADINGS: Amino Acid Sequence
MESH HEADINGS: Bacterial Proteins/genetics

MESH HEADINGS: Base Sequence
MESH HEADINGS: Cloning, Molecular
MESH HEADINGS: Escherichia coli/*genetics/growth &amp
MESH HEADINGS: development
MESH HEADINGS: *Gene Expression Regulation
MESH HEADINGS: *Genes, Bacterial
MESH HEADINGS: *Genes, Regulator
MESH HEADINGS: Genotype
MESH HEADINGS: Molecular Sequence Data
MESH HEADINGS: Plasmids
MESH HEADINGS: Restriction Mapping
LANGUAGE: eng

82. Avramides, E. J., Lentza-Rizos, Ch., and Mojasevic, M (2003). Determination of pesticide residues in wine using gas chromatography with nitrogen-phosphorus and electron capture detection. *Food Additives & Contaminants* 20: 699-706.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:732978
Chemical Abstracts Number: CAN 140:76137
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food contamination; Gas chromatography; Pesticides; Wine analysis (detn. of pesticide residues in wine using GC with nitrogen-phosphorus and electron capture detection)
CAS Registry Numbers: 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 78-48-8 (Tribufos); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 99-30-9 (Dicloran); 101-21-3 (Chloropropham); 115-32-2 (p,p'-Dicofol); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-42-9 (Propham); 133-06-2 (Captan); 133-07-3 (Folpet); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 485-31-4 (Binapacryl); 527-20-8 (Pentachloroaniline); 563-12-2 (Ethion); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8; 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1897-45-6 (Chlorothalonil); 2104-96-3 (Bromophos-methyl); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2439-01-2 (Quinomethionate); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyriphos); 5598-13-0; 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13457-18-6 (Pyrazophos); 18181-80-1 (Bromopropylate); 21087-64-9 (Metribuzin); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9; 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 41483-43-6 (Bupirimate); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 66246-88-6 (Penconazole); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 83657-24-3 (Diniconazole); 84332-86-5 (Chlozolinate); 88671-89-0 (Myclobutanil); 91465-08-6; 107534-96-3 (Tebuconazole); 131860-33-8 (Azoxystrobin); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (detn. of pesticide residues in wine using GC with nitrogen-phosphorus and electron capture detection)
Citations: Avramides, E; Book of Abstracts of the 1st Mediterranean Workshop 'Research and European Policy on Pesticide Residues in Mediterranean Countries' 2000, 66

Citations: Cabras, P; Journal of Agricultural and Food Chemistry 2000, 8, 967
Citations: Cabras, P; Journal of Agricultural and Food Chemistry 1999, 47, 3854
Citations: Correira, M; Journal of Chromatography A 2000, 889, 59
Citations: Correira, M; Fresenius Journal of Analytical Chemistry 2001, 369, 647
Citations: EPA; Residue Chemistry Test Guidelines, OPPTS 860.1520: Processed Food/Feed 1996
Citations: European Commission; Peer Review Programme Iprodione 1996, 3, 239
Citations: European Commission; Official Journal of the European Communities 1997, L 184, 33
Citations: Garcia-Repetto, R; Journal of the Association of Official Analytical Chemists International 1996, 79, 1423
Citations: Hyotylainen, T; Journal of Chromatography A 1998, 813, 113
Citations: Jimenez, J; Journal of Chromatography A 2001, 919, 147
Citations: Kaufmann, A; Journal of the Association of Official Analytical Chemists International 1997, 80, 1302
Citations: Navarro, S; Journal of Agricultural and Food Chemistry 2000, 48, 3537
Citations: Pietschmann, M; Lebensmittelchemie 2000, 54, 102 A multi-residue method employing an extn. step with Et acetate followed by clean-up using an Isolute silica column and detn. using gas chromatog. with nitrogen-phosphorus and electron capture detection was validated for a wide range of pesticide residues in white and red wine. Recoveries between 70 and 110% and relative std. deviations below 20% were obtained for nearly all target analytes using matrix-matched stds. Limits of detection based on 3 times the signal-to-noise ratio were in the range 0.002-0.01 mg/L for most compds. The chromatograms were generally free of interference peaks resulting from co-extractives, although a few were noted for red wine with nitrogen-phosphorus detection. Ninety-two wine samples collected in Greece and Yugoslavia during 2 consecutive years were screened for residues of 84 pesticides, 71% of which were registered for use on vines in one or both countries. A total of 20% of the samples were obtained from field trials, and of these, one Greek wine contained iprodione 0.3 mg/L and 6 Yugoslavian wines, for which vinclozolin had been added to the must as part of a different study, contained residues of this pesticide. No residues were detected in any of the other samples. [on SciFinder (R)] 0265-203X pesticide/ residue/ detn/ wine/ GC

83. Avramides, Elizabeth J (2005). Long-term stability of pure standards and stock standard solutions for the determination of pesticide residues using gas chromatography. *Journal of Chromatography, A* 1080: 166-176.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:525508
Chemical Abstracts Number: CAN 143:168017
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Gas chromatography; Pesticides; Standard substances (long-term stability of pure stds. and stock std. solns. for the detn. of pesticide residues using gas chromatog.)
CAS Registry Numbers: 50-29-3 (4,4'-DDT); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathionethyl); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorovos); 72-54-8 (4,4'-DDD); 72-55-9 (4,4'-DDE); 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphosmethyl); 99-30-9 (Dicloran); 101-21-3 (Chloropropham); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 133-06-2 (Captan); 141-66-2 (Dicrotophos); 298-00-0 (Parathionmethyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3; 300-76-5 (Dibrom); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 333-41-5; 470-90-6; 485-31-4 (Binapacryl); 527-20-8 (Pentachloroaniline); 563-12-2 (Ethion); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6 (2,4'-DDT); 867-27-6 (Demeton-O-methyl); 919-86-8 (Demeton-S-methyl); 950-10-7; 950-37-8 (Methidathion); 959-98-8 (a-

Endosulfan); 973-21-7 (Dinobuton); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1194-65-6 (Dichlobenil); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2104-96-3 (Bromophosmethyl); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2642-71-9 (Azinphosethyl); 2921-88-2 (Chlorpyrifos-ethyl); 3424-82-6 (2,4'-DDE); 3761-41-9 (Fenthion sulfoxide); 3761-42-0 (Fenthion sulfone); 5131-24-8 (Ditalimphos); 5598-13-0; 6552-12-1 (Fenoxon); 6552-13-2 (Fenoxon sulfoxide); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14086-35-2 (Fenoxon sulfone); 15972-60-8 (Alachlor); 18181-80-1 (Bromopropylate); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23505-41-1 (Pirimiphosethyl); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphosmethyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 36734-19-7 (Iprodione); 38260-54-7 (Etrimphos); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenophos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 66246-88-6 (Penconazole); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 91465-08-6; 107534-96-3 (Tebuconazole); 119168-77-3 (Tebufenpyrad); 131860-33-8 (Azoxystrobin); 143390-89-0 (Kresoximmethyl) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (long-term stability of pure stds. and stock std. solns. for the detn. of pesticide residues using gas chromatog.)
Citations: 1) van der Schee, H; Presented at the 2nd European Pesticide Residues Workshop 1998, poster abstract B55
Citations: 2) Avramides, E; Presented at the European Union Analytical Quality Control Workshop 2003
Citations: 3) de Kok, A; Presented at the 5th European Pesticide Residues Workshop 2004, poster abstract PA 21
Citations: 4) Avramides, E; Presented at the 5th European Pesticide Residues Workshop 2004, poster abstract PO 01
Citations: 5) European Commission; Quality Control Procedures for Pesticide Residues Analysis, third ed 2004, Commission Working Document No SANCO/10476/2003 The regular replacement of pure stds. used in pesticide residue anal. labs. and frequent prepn. of stock std. solns., both required by many accreditation bodies, impose considerable demands on a lab.'s resources. In this study, pure stds. for all but one (heptenophos) of 118 pesticides amenable to anal. by GC, and stock std. solns. (1000 mg/mL) prepd. from these in toluene, acetone or Et acetate have been shown to be stable at ?-20 DegC over long periods: 4-13 and 2-8 years, resp., for pure stds. and solns. Suitable solvents, containers and handling procedures are essential to avoid evapn. from solns. [on SciFinder (R)] 0021-9673 stability/ std/ stock/ soln/ pesticide/ residue/ detn/ gas/ chromatog

84. Axelrad, J. C., Howard, C. V., and McLean, W. G (2003). The effects of acute pesticide exposure on neuroblastoma cells chronically exposed to diazinon. *Toxicology* 185: 67-78.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:970167
Chemical Abstracts Number: CAN 138:397458
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Animal cell line (NB2a; effects of acute pesticide exposure on neuroblastoma cells

chronically exposed to diazinon); Axon; Cell differentiation; Neurotoxicity (effects of acute pesticide exposure on neuroblastoma cells chronically exposed to diazinon); Pyrethrins Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (effects of acute pesticide exposure on neuroblastoma cells chronically exposed to diazinon); Pesticides (organophosphorus; effects of acute pesticide exposure on neuroblastoma cells chronically exposed to diazinon)
CAS Registry Numbers: 333-41-5 (Diazinon); 732-11-6 (Phosmet); 1071-83-6 (Glyphosate); 2921-88-2 (Chlorpyrifos); 29232-93-7 (Pirimiphos methyl); 38641-94-0 (Roundup); 81591-81-3 (Glyphosate trimesium) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (effects of acute pesticide exposure on neuroblastoma cells chronically exposed to diazinon)
Citations: Abdulla, E; Ann New York Acad Sci 1993, 679, 276
Citations: Abou-Donia, M; Neurotoxicology 1995, 16, 281
Citations: Abou-Donia, M; J Toxicol Environ Health 1996, 48, 35
Citations: Abou-Donia, M; Fundam Appl Toxicol 1996, 34, 201
Citations: Audegond, L; J Toxicol Clin Exp 1989, 9, 163
Citations: Axelrad, J; Toxicology 2002, 173, 259
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Citations: Bigbee, J; Environ Health Perspect 1999, 107, S81
Citations: Calderon, F; Mol Psychiatr 1998, 3, 247
Citations: Chang, J; Fundam Appl Toxicol 1992, 19, 307
Citations: Committee on Toxicity of Chemicals in Food; Organophosphates 1999
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Citations: de Blaquiere, G; Toxicol Appl Pharmacol 2000, 166, 81
Citations: Eels, J; J Pharmacol Exp Ther 1992, 262, 1173
Citations: Eriksson, P; Toxicol Appl Pharmacol 1990, 102, 456
Citations: Fowler, M; J Neurochem 2001, 76, 671
Citations: Henschler, D; Toxicol In Vitro 1992, 6, 327
Citations: Huang, C; J Neurochem 1996, 67, 530
Citations: Ivens, I; Toxicol Sci 1998, 46, 101
Citations: Jamal, G; Adv Drug Reactions Toxicol Rev 1997, 16, 133
Citations: Jarvinen, A; Ecotoxicol Environ Saf 1983, 7, 423
Citations: Jena, G; In Vivo 1992, 6, 527
Citations: Johnson, M; Toxicol Appl Pharmacol 1990, 102, 385
Citations: Johnson, G; Biochem Biophys Res Commun 1999, 258, 758
Citations: Koenigsberger, C; J Neurochem 1997, 69, 1389
Citations: Korsak, R; Clin Toxicol 1977, 11, 83
Citations: Kump, A; J Pharmacol Exp Ther 1996, 277, 1477
Citations: Lipton, S; Science 1988, 239, 1293
Citations: Marinovich, M; Toxicology 1996, 108, 201
Citations: Moore, D; Drug Chem Toxicol 1998, 21, 123
Citations: Pilkington, A; Phase 3: Clinical neurological and neuropsychological study 1999, TM/99/02c
Citations: Prendergast, M; Psychopharmacol (Berl) 1997, 129, 183
Citations: Prendergast, M; Neurotoxicol Teratol 1998, 20, 115
Citations: Rieger, F; J Neurochem 1976, 27, 1059
Citations: Senanayake, N; New Engl J Med 1987, 316, 761
Citations: Singh, A; Environ Res 1987, 43, 342
Citations: Sivam, S; J Neurochem 1983, 40, 1414
Citations: Smith, S; Biochem Pharmacol 1997, 53, 5
Citations: Socko, R; Int J Occup Med Environ, Health 1999, 12, 105
Citations: Soliman, S; Toxicol Appl Pharmacol 1983, 69, 417
Citations: Stephens, R; Lancet 1995, 345, 1135
Citations: Sultatos, L; J Toxicol Environ Health 1994, 43, 271
Citations: Talbot, A; Hum Exp Toxicol 1991, 10, 1
Citations: Thuerl, C; Brain Res 1997, 762, 47
Citations: Veronesi, B; In Vitro Toxicol 1993, 6, 57

Citations: Viana, G; Toxicol Appl Pharmacol 1988, 93, 257
Citations: Wurpel, J; Neurotoxicology 1993, 14, 429 Speculation about potential neurotoxicity due to chronic exposure to low doses of organophosphate (OP) pesticides is not yet supported by exptl. evidence. The objective of this work was to use a cell culture model of chronic OP exposure to det. if such exposure can alter the sensitivity of nerve cells to subsequent acute exposure to OPs or other compds. NB2a neuroblastoma cells were grown in the presence of 25 mM diazinon for 8 wk. The OP was then withdrawn and the cells were induced to differentiate in the presence of various other pesticides or herbicides, including OPs and OP-contg. formulations. The resulting outgrowth of neurite-like structures was measured by light microscopy and quant. image anal. and the IC50 for each OP or formulation was calcd. The IC50 values in diazinon pre-exposed cells were compared with the equiv. values in cells not pre-exposed to diazinon. The IC50 for inhibition of neurite outgrowth by acute application of diazinon, pyrethrum, glyphosate, or a com. formulation of glyphosate was decreased by between 20 and 90% after pretreatment with diazinon. In contrast, the IC50 for pirimiphos Me was unaffected and those for phosmet or chlorpyrifos were increased by between 1.5- and 3-fold, resp. Treatment of cells with chlorpyrifos or with a second glyphosate-contg. formulation led to the formation of abnormal neurite-like structures in diazinon-pre-exposed cells. The data support the view that chronic exposure to an OP may reduce the threshold for toxicity of some, but by no means all, environmental agents. [on SciFinder (R)] 0300-483X pesticide/ toxicity/ neuroblastoma/ cell/ diazinon;/ neurotoxicity/ organophosphate/ pesticide

85. Aytac(cedilla), Z., U(dieresis)nal, F., and Nur Pinar, M. (2000). Morphological, Palynological, and Cytotaxonomical Study of Ebenus Longipes Boiss. & Bal. And E. Argentea Siehe Ex Bornm. (Leguminosae) From Turkey. *Israel Journal of Plant Sciences, 48 (4) pp. 321-326, 2000*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0792-9978
Abstract: Morphological, palynological, and karyological features of Ebenus longipes Boiss. & Bal. and E. argentea Siehe ex Bornm. have been examined in detail. Morphologically, stems, shape of leaves and pair of leaflets, bracts, calyx, flowers, and fruit structure are examined and discussed. Pollen grains of both species are radially symmetrical, isopolar, tricolpate, prolate, and ornamentations are microreticulate. Their exine structures are the same. Both species are diploid with the chromosome number of 14. All chromosomes are metacentric. One pair of chromosomes with a satellite is present in both species. Based on these results, E. argentea is reduced as synonym of E. longpipes.
9 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Israel
Classification: 92.14.1.4 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Cytotaxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Subfile: Plant Science

86. B&Eacute, Kaert, C., Ferrier, V., Marty, J., Pfohl-Leszkowicz, A., Bispo, A., Jourdain, M. J., Jauzein, M., Lambolez-Michel, L., and Billard, H. (Evaluation of Toxic and Genotoxic Potential of Stabilized Industrial Waste and Contaminated Soils. *Waste manag. 2002; 22(2):241-7. [Waste management (new york, n.y.)]: Waste Manag*.
Chem Codes: Chemical of Concern: PSM Rejection Code: MIXTURE.

ABSTRACT: Artificial aqueous samples (eluates, percolates, immersion waters) were obtained from contaminated soils and stabilized industrial wastes. The toxicity and genotoxicity of these aqueous fractions have been evaluated in vivo in the aquatic larvae of the amphibian Xenopus

laevis. Four biotests have been applied: a test of subchronic toxicity and three biomakers: (1) measurement of the activity of ethoxyresorufine-o-dealkylase in the liver, (2) detection of DNA adducts in the liver and the blood, and (3) measurement of the rate of micronuclei in the erythrocytes. Biological datas were completed through a chemical analysis. The main conclusions of this study are: The importance of integrating different toxicity criterias into a biological battery (phenotypic and genotypic criterias). Some aqueous extracts did not seem to be very toxic, whereas their genotoxic effects were rather significant [e.g. the stabilized Municipal Solid Waste (MSW) ashes]. The importance of coupling together chemical and biological approaches to refine the impact. Actually, some eluates (lixiviation or percolation) coming from polluted soils appeared to be very poorly loaded with pollutants, whereas the toxic and genotoxic impact of these complex matrices were rather noticeable. In addition, when applying the leaching standardized procedure, the hazardous potential of the two analysed soils may be underestimated if the results on percolates and on eluates have been compared. This study highligths the importance of coupling the tools of characterization and preparation of samples to be analysed according to the objectives to be reached.
MESH HEADINGS: Animals
MESH HEADINGS: Biological Markers/*analysis
MESH HEADINGS: Cytochrome P-450 CYP1A1/analysis/*pharmacology
MESH HEADINGS: DNA Adducts/*analysis
MESH HEADINGS: Erythrocytes
MESH HEADINGS: Industrial Waste/*adverse effects
MESH HEADINGS: Larva
MESH HEADINGS: Micronucleus Tests
MESH HEADINGS: Mutagenicity Tests
MESH HEADINGS: Soil Pollutants/*toxicity
MESH HEADINGS: Xenopus laevis/growth &amp
MESH HEADINGS: development
LANGUAGE: eng

87. Babad, Harry and Herbert, Washington (1968). Nuclear magnetic resonance studies of phosphorus(V) pesticides. I. Chemical shifts of protons as a means of identification of pesticides. *Analytica Chimica Acta* 41: 259-68.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1968:77181
Chemical Abstracts Number: CAN 68:77181
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Nuclear magnetic resonance (of phosphorus pesticides); Pesticides (phosphorus, N.M.R. of)
Index Terms(2): Vapona-R Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of)
CAS Registry Numbers: 126-75-0 Role: BIOL (Biological study) (mixt. with O,O-diethyl O-[2-(ethylthio)ethyl] ester, N.M.R. of); 298-03-3 Role: BIOL (Biological study) (mixt. with O,O-diethyl S-[2-(ethylthio)ethyl] ester, N.M.R. of); 52-68-6; 55-38-9; 56-38-2; 56-72-4; 60-51-5; 78-34-2; 86-50-0; 121-75-5; 141-66-2; 152-16-9; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 299-85-4; 299-86-5; 300-76-5; 301-12-2; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 741-58-2; 786-19-6; 950-37-8; 953-17-3; 1754-58-1; 2104-64-5; 2463-84-5; 2642-71-9; 2921-88-2; 3244-90-4; 3383-96-8; 3689-24-5; 6923-22-4; 7700-17-6; 7786-34-7; 13992-07-9 (Phosphonodithioic acid, ethyl-) Role: PRP (Properties) (nuclear magnetic resonance of) Correlations of structural and proton chem.-shift data for 40 com. P(V) pesticides are reported. Correlations of structure with the P coupling consts. are discussed, and general trends are noted which aid in the use of N.M.R. as a tool for identification and anal. of P(V) compds. 15 references. [on SciFinder (R)] 0003-2670 ORG/ P/

PESTICIDES/ NMR;/ PESTICIDES/ NMR/ ORG/ P;/ NMR/ ORG/ P/ PESTICIDES;/ ANALYSIS/ PESTICIDES/ NMR

88. BABAJIDE, ADERONKE, FARBER, ROBERT, HOFACKER, IVO L., INMAN, JEFF, LAPEDES, ALAN S., and STADLER, PETER F. (2001). Exploring Protein Sequence Space Using Knowledge-based Potentials. *Journal of Theoretical Biology* 212: 35-46.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Knowledge-based potentials can be used to decide whether an amino acid sequence is likely to fold into a prescribed native protein structure. We use this idea to survey the sequence-structure relations in protein space. In particular, we test the following two propositions which were found to be important for efficient evolution: the sequences folding into a particular native fold form extensive neutral networks that percolate through sequence space. The neutral networks of any two native folds approach each other to within a few point mutations. Computer simulations using two very different potential functions, M. Sippl's PROSA pair potential and a neural network based potential, are used to verify these claims.
http://www.sciencedirect.com/science/article/B6WMD-457VDFT-4S/2/d3392d9e089002558fb48e72c5b907e0

89. Bache, Carl A. and Lisk, Donald J (1968). Versatility of OV-17 substrate for gas chromatography of pesticides. *Journal - Association of Official Analytical Chemists* 51: 1270-1.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1969:27907
Chemical Abstracts Number: CAN 70:27907
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (chromatog. of)
CAS Registry Numbers: 50-29-3; 56-38-2; 58-89-9; 60-51-5; 60-57-1; 72-54-8; 72-55-9; 86-50-0; 88-85-7; 116-06-3; 121-75-5; 137-26-8; 150-68-5; 298-02-2; 300-76-5; 309-00-2; 311-45-5; 314-40-9; 321-54-0; 534-52-1; 732-11-6; 741-58-2; 887-54-7; 961-22-8; 1079-33-0; 1113-02-6; 1634-78-2; 2032-65-7; 2588-03-6; 2588-04-7; 3735-33-9; 3907-41-3; 5902-51-2; 7070-93-1; 7700-17-6; 7786-34-7; 13171-21-6; 17595-62-9; 21836-16-8; 21836-17-9 Role: ANT (Analyte), ANST (Analytical study) (chromatog. of) The gas chromatog. of pesticides on a 10% OV-17 on Gas Chrom Q column was studied. The column was conditioned 24 hrs. at 230 Deg after injecting 2 30-ml. portions of Silyl-8. The microwave-powered He emission detector of C. A. Bache and D. J. Lisk (1967) and the electron affinity detector of W. H. Gutenmann and D. J. Lisk (1963) were used. The column temps. and retention times of 30 compds. are presented. The chromatogram, at 160 Deg, of thimet and its oxidn. products is presented. Detection was accomplished by monitoring the 2535.7-A. at. P emission. The only unresolved peaks were those corresponding to the O analog sulfoxide and the O analog sulfone of thimet. [on SciFinder (R)] 0004-5756
pesticides/ chromatog;/ chromatog/ pesticides;/ gas/ chromatog/ pesticides;/ thimet/ gas/ chromatog

90. Baez, Maria E., Rodriguez, Manuel, Lastra, Olga, and Contreras, Paola (1997). Solid-phase extraction of organophosphorus, triazine, and triazole-derived pesticides from water samples. A critical study. *Journal of High Resolution Chromatography* 20: 591-596.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:732976

Chemical Abstracts Number: CAN 127:336360
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Evaporation; Ionic strength (effect on solid-phase extn. of pesticides from water using C18 columns); Pesticides (organophosphorus; solid-phase extn. of pesticides from water using C18 columns); Pesticides (solid-phase extn. of organophosphorus and triazine- and triazole-derived pesticides from water using C18 columns); Extraction (solid-phase; of organophosphorus and triazine- and triazole-derived pesticides from water using C18 columns)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (solid-phase extn. of organophosphorus and triazine- and triazole-derived pesticides from water using C18 columns); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphosmethyl); 121-75-5 (Malathion); 122-34-9 (Simazine); 139-40-2 (Propazine); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidation); 1610-18-0 (Prometon); 1912-24-9 (Atrazine); 2921-88-2 (Chlorpyriphos); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 13194-48-4 (Ethoprophos); 15299-99-7 (Napropamide); 33089-61-1 (Amitraz); 43121-43-3 (Triadimefon); 60207-90-1 (Propiconazole); 66246-88-6 (Penconazole) Role: ANT (Analyte), ANST (Analytical study) (solid-phase extn. of pesticides from water using C18 columns) A crit. study using C18 SPE columns for the detn. of organophosphorus and triazine- and triazole-derived pesticides, napropamide, and amitraz is presented. The type of sorbent, sorbent mass, flow rate in the extn. process, sample concn. of the different compds., sample vol., pH, and ionic strength were evaluated. Special emphasis was placed on the evapn. step of eluates prior to GC detns. and on prefiltration of sample waters. Pesticide recovery was linear over a wide range of concns. for most of compds. under study. Under general extn. conditions losses can be expected for amitraz, pro-metryn, prometon, dimethoate, penconazole, and propiconazole. At 100 ng/L, enhanced responses were produced for mevinphos, simazine, malathion, triadimefon, methidathion, and phosmet, which were attributed to matrix effects. At basic pH, recovery of prometon, prometryn, and penconazole were improved. Low flow rates and high ionic strength enhanced the recovery of prometon and prometryn. For phosmet, the influence of sample vol. was established. Likewise, the influence of sorbent quantity was established for phosmet and dimethoate. Losses during the evapn. step were obsd. for mevinphos, dimethoate (> 50%), penconazole, propiconazole, and prometon (30%). Prefiltration of sample waters did not cause significant variations in the whole process of extn. Impurities arising from the sorbent materials were not detected. [on SciFinder (R)] 0935-6304 organophosphorus/ pesticide/ solid/ phase/ extn/ water;/ triazine/ pesticide/ solid/ phase/ extn/ water;/ triazole/ pesticide/ solid/ phase/ extn/ water

91. Bailey, T. L., Hudson, R. S., Powe, T. A., Riddell, M. G., Wolfe, D. F., and Carson, R. L. (1998). Caliper and ultrasonographic measurements of bovine testicles and a mathematical formula for determining testicular volume and weight in vivo. *Theriogenology* 49: 581-594.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

This study quantified the relationship between calibrated caliper and ultrasonographic derived measurements of bovine testicles in vivo with actual testicular length, width, volume and weight. The prolate spheroid formula was tested to accurately predict testicular volume and a modification to predict weight. Ten bulls were employed to derive caliper and ultrasound testicle (n = 20) length and width measurements in vivo. Caliper length measurements were more reliable than ultrasound derived lengths, with correlations of $r2= 0.8023$; $P < 0.05$ and $r2= 0.5111$; $P < .05$, respectively. Width for both the calipers and ultrasound measurements when compared to actual width measurements were $r2= 0.7313$; $P < 0.05$ and $r2= 0.8310$; $P < 0.05$, respectively. The prolate spheroid formula is reliable in determining testicle (n = 116) volume ($r2= 0.8928$; $P < 0.05$). Testicular volume and weight are highly correlated ($r2= 0.9776$; $P < 0.05$); therefore, a modification of the prolate spheroid formula was used to predict weight ($r2= 0.9084$; $P < 0.05$) against the actual weight. Caliper-derived length and width measurements used in the prediction of volume and weight had correlation coefficients against actual volume and weight of r2= 0.5497; P < 0.05 and r2= 0.6340; P < 0.05, respectively. Ultrasound in vivo measurements for prediction of testicular volume and testicular weight had a correlation of r2= 0.3276; P < 0.05 and r2= 0.6249; P <0.05, respectively. A testicular (n = 116) length to width ratio of 1.8:1 (SEM = 0.01) was determined for both slaughterhouse and castrated animals. Caliper measurements are reliable, inexpensive and much simpler to obtain than ultrasound determinations for in vivo testicle length, width, volume and weight. The two-dimensional measurement of length and width would be a more accurate predictor of testicle volume and weight than the onedimensional measurement of scrotal circumference (SC), especially in bulls with variation in testicular shape. bovine/ testicle/ volume/ weight http://www.sciencedirect.com/science/article/B6TCM-3SJMWSS-8/2/5754fbca9848f6c8acb999d60b82d9ce

92. Bain, Lisa J. and LeBlanc, Gerald A (1996). Interaction of structurally diverse pesticides with the human MDR1 gene product P-glycoprotein. *Toxicology and Applied Pharmacology* 141: 288-298.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:695243
Chemical Abstracts Number: CAN 126:2818
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Melanoma; Pesticides (pesticides interaction with human P-glycoprotein); P-glycoproteins Role: BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (pesticides interaction with human P-glycoprotein); Lipophilicity (pesticides interaction with human P-glycoprotein in relation to lipophilicity)
CAS Registry Numbers: 50-29-3 (Ddt); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-55-9 (Dde); 76-44-8 (Heptachlor); 87-86-5 (Pentachlorophenol); 87-87-6; 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 116-06-3 (Aldicarb); 143-50-0 (Chlordecone); 732-11-6 (Phosmet); 1024-57-3 (Heptachlor epoxide); 1646-88-4 (Aldoxycarb); 1912-24-9 (Atrazine); 2032-59-9 (Aminocarb); 2385-85-5 (Mirex); 2463-84-5 (Dicapthon); 2921-88-2 (Chlorpyriphos); 3373-86-2; 4685-14-7 (Paraquat); 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 16752-77-5 (Lannate); 21609-90-5 (Leptophos); 22224-92-6 (Phenamiphos); 23593-75-1 (Clotrimazole); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 60207-90-1 (Propiconazole); 60238-56-4 (Chlorthiophos); 67485-29-4 (Hydramethylnon); 69409-94-5 (Fluvalinate); 70288-86-7 (Ivermectin) Role: BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (pesticides interaction with human P-glycoprotein) Expts. were conducted using B16/F10 murine melanoma cells transfected with the human MDR1 gene (B16/hMDR1 cells), which codes for P-glycoprotein (P-gp), to det. whether this transporter may contribute to the cellular efflux of some pesticides. Thirty-eight pesticides representing several classes of compds. were evaluated for their potential to bind to P-gp, as measured by the inhibition of efflux of the P-gp substrate doxorubicin. Carbamate and pyrethroid insecticides exhibited little interaction with P-gp, while many of the organophosphorus and organochlorine pesticides significantly inhibited the efflux of doxorubicin. Pesticides that significantly inhibited the efflux of doxorubicin were then assessed for P-gp-mediated efflux. One pesticide, endosulfan, exhibited slight though significant transport mediated by P-gp. Competition expts. performed with the P-glycoprotein ligand [3H]azidopine demonstrated that the P-gp inhibitory pesticides bound to P-gp. Both lipophilicity and mol. mass were major phys./chem. determinants in dictating pesticide binding to P-gp, with optimum binding occurring with compds. having a log Kow value of 3.6-4.5 and a mol. wt. of 391-490 Da. The transport substrate endosulfan possessed optimal binding characteristics. These results demonstrated that many pesticides are capable of binding to P-gp; however, binding does not infer transport. [on SciFinder (R)] 0041-008X pesticide/ interaction/ P/ glycoprotein

93. Bain, Lisa J., Mclachlan, James B., and Leblanc, Gerald A (1997). Structure-activity relationships for xenobiotic transport substrates and inhibitory ligands of P-glycoprotein. *Environmental Health Perspectives* 105: 812-818.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR, HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 1997:725089
Chemical Abstracts Number: CAN 128:19548
Section Code: 4-4
Section Title: Toxicology
CA Section Cross-References: 1
Document Type: Journal
Language: written in English.
Index Terms: Biological transport; QSAR; Xenobiotics (structure-activity relationships for xenobiotic transport substrates and inhibitory ligands of P-glycoprotein); P-glycoproteins Role: BAC (Biological activity or effector, except adverse), BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (structure-activity relationships for xenobiotic transport substrates and inhibitory ligands of P-glycoprotein)
CAS Registry Numbers: 52-53-9 (Verapamil); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 76-44-8 (Heptachlor); 87-87-6; 143-50-0 (Chlordecone); 303-49-1 (Clomipramine); 500-28-7 (Chlorthion); 1024-57-3 (Heptachlor epoxide); 2310-17-0 (Phosalone); 2463-84-5 (Dicapthon); 2511-17-3 (Diaphos); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chloropyrifos); 22224-92-6 (Phenamiphos); 23593-75-1 (Clotrimazole); 26644-46-2 (Triforine); 42399-41-7 (Diltiazem); 52645-53-1 (Permethrin); 55985-32-5 (Nicardipine); 67485-29-4 (Hydramethylnon); 69409-94-5 (Fluvalinate); 70288-86-7 (Ivermectin); 79241-46-6 Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study) (structure-activity relationships for xenobiotic transport substrates and inhibitory ligands of P-glycoprotein); 50-76-0 (Actinomycin D); 57-22-7 (Vincristine); 58-89-9 (Lindane); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 64-86-8 (Colchicine); 72-43-5 (Methoxychlor); 115-29-7 (Endosulfan); 116-06-3 (Aldicarb); 732-11-6 (Phosmet); 865-21-4 (Vinblastine); 1646-88-4 (Aldoxycarb); 1912-24-9 (Atrazine); 2032-59-9 (Aminocarb); 2385-85-5 (Mirex); 4685-14-7 (Paraquat); 7786-34-7 (Mevinphos); 20830-81-3 (Daunomycin); 21609-90-5 (Leptophos); 23214-92-8 (Doxorubicin); 33069-62-4 (Taxol); 33419-42-0 (Etoposide); 50471-44-8 (Vinclozolin); 59865-13-3 (Cyclosporin A); 60207-90-1 (Propiconazole); 73113-90-3 (Hydroxyrubicin) Role: BPR (Biological process), BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study), PROC (Process) (structure-activity relationships for xenobiotic transport substrates and inhibitory ligands of P-glycoprotein)
Citations: 1) Gottesman, M; Cell Biology and Membrane Transport Processes 1994, 41, 3
Citations: 2) Thiebaut, F; Proc Natl Acad Sci USA 1987, 84, 7735
Citations: 3) Horton, J; Biochem Pharmacol 1989, 38, 1727
Citations: 4) van Kalken, C; Br J Cancer 1993, 67, 284
Citations: 5) Wolf, D; Int J Cancer 1992, 52, 141
Citations: 6) Ueda, K; J Biol Chem 1992, 267, 24248
Citations: 7) Schinkel, A; Cell 1994, 77, 491
Citations: 8) Didier, A; Int J Cancer 1995, 63, 263
Citations: 9) Lanning, C; J Toxicol Environ Health 1996, 47, 395
Citations: 10) Tew, K; Preclinical and Clinical Modulation of Anticancer Drugs 1993
Citations: 11) Hofsli, E; Cancer Res 1990, 50, 3997
Citations: 12) Bain, L; Toxicol Appl Pharmacol 1996, 141, 288
Citations: 13) Bielder, J; Cancer Res 1970, 30, 106
Citations: 14) Christensen, J; Cancer Res 1996, 56, 574
Citations: 15) Zamora, J; Mol Pharmacol 1988, 33, 454
Citations: 16) Tsuruo, T; Drug Resistance as a Biochemical Target in Cancer Chemotherapy 1992
Citations: 17) Kumar, R; Biomed Chromatogr 1989, 3, 272
Citations: 18) Rice, L; J Chromatogr 1984, 317, 523

Citations: 19) Negre, M; J Chromatogr 1987, 387, 541
Citations: 20) van Lancker, M; J Chromatogr 1986, 374, 415
Citations: 21) Debal, V; J Chromatogr 1992, 581, 93
Citations: 22) Egorin, M; Cancer Res 1974, 40, 2243
Citations: 23) Hamilton, M; Environ Sci Technol 1978, 11, 714
Citations: 24) Tsuruo, T; Cancer Res 1981, 41, 1967
Citations: 25) Gottesman, M; Ann Rev Biochem 1993, 62, 385
Citations: 26) Phang, J; Cancer Res 1993, 53, 5977
Citations: 27) Yeh, G; Cancer Res 1992, 52, 6692
Citations: 28) Ichikawa-Haraguchi, M; Biochim Biophys Acta 1993, 1158, 201
Citations: 29) Hodgson, E; Introduction to Biochemical Toxicology 1994
Citations: 30) Wilson, J; Textbook of Endocrinology 1985
Citations: 31) Oude, E; Pharmacol Ther 1994, 64, 77
Citations: 32) Paul, S; Biochemistry 1996, 35, 14003
Citations: 33) Smit, J; Cell 1993, 75, 451
Citations: 34) Kodavanti, U; Pharmacol Rev 1990, 42, 327
Citations: 35) Hontela, A; Rev Toxicol in press The multixenobiotic resistance phenotype is characterized by the reduced accumulation of xenobiotics by cells or organisms due to increased efflux of the compds. by P-glycoprotein (P-gp) or related transporters. An extensive xenobiotic database, consisting primarily of pesticides, was utilized in this study to identify mol. characteristics that render a xenobiotic susceptible to transport by or inhibition of P-gp. Transport substrates were differentiated by several mol. size/shape parameters, lipophilicity, and hydrogen bonding potential. Electrostatic features differentiated inhibitory ligands from compds. not categorized as transport substrates and that did not interact with P-gp. A two-tiered system was developed using the derived structure-activity relationships to identify P-gp transport substrates and inhibitory ligands. Prediction accuracy of the approach was 82%. The authors then validated the system using six addnl. pesticides of which two were predicted to be P-gp inhibitors and four were predicted to be noninteractors, based upon the structure-activity analyses. Exptl. detns. using cells transfected with the human MDR1 gene demonstrated that five of the six pesticides were properly categorized by the structure-activity analyses (83% accuracy). Finally, structure-activity analyses revealed that among P-gp inhibitors, relative inhibitory potency can be predicted based upon the surface area or vol. of the compd. These results demonstrate that P-gp transport substrates and inhibitory ligands can be distinguished using mol. characteristics. Mol. characteristics of transport substrates suggest that P-gp may function in the elimination of hydroxylated metabolites of xenobiotics. [on SciFinder (R)] 0091-6765 P/ glycoprotein/ xenobiotic/ transport/ inhibitor/ structure

94. Baker, Rodney Cyril (19891017). Ectoparasiticidal pour-on formulation for dogs. 9 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1990:174112
Chemical Abstracts Number: CAN 112:174112
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: USXXAM
Index Terms: Canis familiaris (ectoparasiticidal formulations for, pour-on); Alcohols Role: BIOL (Biological study) (C1-4, carrier, in pour-on ectoparasiticidal formulations); Parasiticides (ecto-, pour-on, for dogs)
CAS Registry Numbers: 71-23-8 (n-Propanol) Role: BIOL (Biological study) (carrier, in pour-on ectoparasiticidal formulations); 333-41-5 (Diazinone); 732-11-6 (Phosmet); 2921-88-2 (Dursban); 7696-12-0 (Tetramethrin); 22248-79-9 (Tetrachlorvinphos); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5; 69770-45-2 (Flumethrin) Role: BIOL (Biological study) (ectoparasiticidal formulation contg., pour-on, for dogs)
Patent Application Country: Application: US A pour-on formulation for dogs comprises a

nonsystemic insecticide and a C1-4 alc. carrier. A formulation comprised Dursban 4, permethrin 4, and PrOH to 100%. The formulation, applied to dogs at 30-60 mg Dursban/kg, controlled ticks and fleas for >=4 wk. [on SciFinder (R)] A01N037-34. A01N043-38; A01N053-00; A01N057-00. ectoparasiticide/ pouron/ dog

95. Baker, Rodney Cyril and Van Rensburg, Philippus Jansen (19841121). Pesticidal composition. 4 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1985:57851
Chemical Abstracts Number: CAN 102:57851
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: BAXXDU
Index Terms: Tablets (insecticidal, formulations for); Insecticides (tablet, formulations for)
CAS Registry Numbers: 52-68-6; 62-73-7; 114-26-1; 333-41-5; 732-11-6; 2921-88-2; 9003-39-8; 33089-61-1; 51630-58-1; 52645-53-1 Role: BIOL (Biological study) (insecticidal tablet formulation contg.)
Patent Application Country: Application: GB
Priority Application Country: ZA
Priority Application Number: 83-3147
Priority Application Date: 19830503 An insecticidal compn. which may be further dild. for use with a hand pump spray or pressurized spray, or may be used as a dip wash for animals was prepd. comprising an insecticide, emulsifier, and a self-disintegrating agent. Thus, a mixt of permethrin [52645-53-1] 10.7, phenylsulfonate CA 0.35, Tergitol XD 0.65, Luviskol K30 [9003-39-8] 8, H3BO3 4.9, tartaric acid 31.9, NaHCO3 43, and Silcolapse 0.5% was formulated as a tablet which when contacted with water effervesced and disintegrated within 2 min. [on SciFinder (R)] A01N025-08; A01N053-00. insecticide/ tablet/ formulation

96. Ballany, John McKellar and Galbraith, Andrew Bennie (19821117). Parasiticidal compositions. 6 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1983:102721
Chemical Abstracts Number: CAN 98:102721
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: BAXXDU
Index Terms: Insecticides (phosphorus-contg., parasiticidal formulation contg. tetramisole and); Parasiticides (ecto-, tetramisole- and organophosphorus insecticides-contg., formulations of, org. acids as stabilizers for); Acids Role: USES (Uses) (org., as stabilizer, for tetramisole- and organophosphorus insecticide-contg. ectoparasiticidal formulations)
CAS Registry Numbers: 64-18-6; 64-19-7; 76-03-9; 77-92-9; 141-82-2 Role: USES (Uses) (as stabilizer, for tetramisole- and organophosphorus insecticide-contg. ectoparasiticidal formulations); 732-11-6 Role: BIOL (Biological study) (parasiticidal formulation contg. tetramisole and); 5036-02-2; 14769-73-4 Role: BIOL (Biological study) (parasiticidal formulations contg. organophosphorus insecticide and)
Patent Application Country: Application: GB
Priority Application Country: GB
Priority Application Number: 81-14169
Priority Application Date: 19810508 A stable pour-on ectoparasiticide contains tetramisole (I) [5036-02-2] and/or levamisole [14769-73-4] and an organophosphorus insecticide, esp. phosmet (II) [732-11-6], the reaction between these compds. being prevented by an acid, suitably a carboxylic acid. Thus, a compn. is given, contg. 5 g levamisole, 10 g II, 10 g citric acid [77-92-

9], 5 g acetic acid [64-19-7], in 72 g 2-(2-butoxyethoxy)ethanol. The compn. was stable for >4 mo. whereas in the absence of the acids, the active ingredients reacted among themselves. [on SciFinder (R)] A01N043-90; A01N025-02. parasiticide/ tetramisole/ organophosphorus/ insecticide;/ org/ acid/ ectoparasiticide/ stabilizer

97. Ballesteros, E., Garcia Sanchez, A., and Ramos Martos, N (2006). Simultaneous multidetermination of residues of pesticides and polycyclic aromatic hydrocarbons in olive and olive-pomace oils by gas chromatography/tandem mass spectrometry. *Journal of Chromatography, A* 1111: 89-96.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2006:259300
Chemical Abstracts Number: CAN 144:310843
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Polycyclic compounds Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (arom. hydrocarbons; pesticides and PAHs simultaneous detn. in olive and olive-pomace oils by GC-MS-MS); Olive oil Role: AMX (Analytical matrix), ANST (Analytical study) (extra virgin; pesticides and PAHs simultaneous detn. in olive and olive-pomace oils by GC-MS-MS); Mass spectrometry (gas chromatog. combined with; pesticides and PAHs simultaneous detn. in olive and olive-pomace oils by GC-MS-MS); Olive oil Role: AMX (Analytical matrix), ANST (Analytical study) (husk; pesticides and PAHs simultaneous detn. in olive and olive-pomace oils by GC-MS-MS); Gas chromatography (mass spectrometry combined with; pesticides and PAHs simultaneous detn. in olive and olive-pomace oils by GC-MS-MS); Food contamination; Pesticides; Tandem mass spectrometry (pesticides and PAHs simultaneous detn. in olive and olive-pomace oils by GC-MS-MS); Olive oil Role: AMX (Analytical matrix), ANST (Analytical study) (pesticides and PAHs simultaneous detn. in olive and olive-pomace oils by GC-MS-MS); Size-exclusion chromatography (pesticides and PAHs simultaneous detn. in olive and olive-pomace oils by GC-MS-MS after gel permeation chromatog. cleanup); Aromatic hydrocarbons Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (polycyclic; pesticides and PAHs simultaneous detn. in olive and olive-pomace oils by GC-MS-MS)
CAS Registry Numbers: 50-32-8 (Benzo[a]pyrene); 52-68-6 (Trichlorfon); 56-38-2 (Parathion ethyl); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 121-75-5 (Malathion); 122-34-9 (Simazine); 191-24-2 (Benzo[ghi]perylene); 192-97-2 (Benzo[e]pyrene); 207-08-9 (Benzo[k]fluoranthene); 298-00-0 (Parathion methyl); 330-54-1 (Diuron); 732-11-6 (Phosmet); 886-50-0 (Terbutryn); 950-37-8 (Methidathion); 959-98-8 (Endosulfan a); 1031-07-8 (Endosulfan sulfate); 2540-82-1 (Formothion); 2631-37-0 (Promecarb); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos methyl); 5915-41-3 (Terbuthylazine); 29232-93-7 (Pirimiphos methyl); 33213-65-9 (b-Endosulfan); 42874-03-3 (Oxyfluorfen); 52918-63-5 (Deltamethrin); 67375-30-8; 72490-01-8 (Fenoxycarb); 83164-33-4 (Diflufenican); 91465-08-6 (l-Cyhalothrin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides and PAHs simultaneous detn. in olive and olive-pomace oils by GC-MS-MS)
Citations: 1) Hajslova, J; Environmental Contaminants in Food 1998, 215
Citations: 2) Fong, W; Pesticide Residues in Foods Methods, Techniques and Regulations 1999
Citations: 3) Codex Alimentarius Commission; Food-Maximum Residues Limits, second ed 1996, 2B
Citations: 4) European Commission; http://europa.eu.int/comm/food/fs/ph_ps/pest/index_en.htm 2001
Citations: 5) de Vos, R; Food Chem Toxicol 1990, 28, 263
Citations: 6) van Stijn, F; J Chromatogr A 1996, 750, 263
Citations: 7) Tamakawa, K; Handbook of Food Analysis 2004, 1449
Citations: 8) Moret, S; Food Addit Contam 2003, 20, 417

Citations: 9) Moreda, W; J Food Sci Agric 2004, 84, 1759
Citations: 10) International Olive Oil Council; http://www.internationalolive.org
Citations: 11) Boletin Oficial Del Estado; Orden 25/7/2001 (BOE 26/7/2001) 2001, 27397
Citations: 12) Moreda, W; J Chromatogr A 2001, 936, 159
Citations: 13) Tribaldo, E; Handbook of Food Analysis 2004, 1177
Citations: 14) Lentza-Rizos, C; Rev Environ Contam Toxicol 1995, 141, 111
Citations: 15) Hiskia, A; J Agric Food Chem 1998, 46, 570
Citations: 16) Lee, M; Analytical Chemistry of Polycyclic Aromatic Compounds 1981, 78
Citations: 17) Moret, S; J Chromatogr A 2000, 882, 245
Citations: 18) Diletti, G; J Chromatogr A 2005, 1062, 247
Citations: 19) Pupin, A; Food Chem 1996, 55, 185
Citations: 20) Jongenotter, G; J High Resol Chromatogr 1999, 22, 17
Citations: 21) Jira, W; Eur Food Res Technol 2004, 218, 208
Citations: 22) Lehotay, S; Trends Anal Chem 2002, 21, 686
Citations: 23) Barrek, S; Anal Bional Chem 2003, 376, 355
Citations: 24) Stajnbaher, D; J Chromatogr A 2003, 1015, 185
Citations: 25) Guillen, M; J Agric Food Chem 2004, 52, 2123
Citations: 26) Bogusz, M; J Chromatogr A 2004, 1026, 1
Citations: 27) Garrido-Frenich, A; Anal Bioanal Chem 2003, 377, 1038
Citations: 28) Patel, K; J Chromatogr A 2005, 1068, 289
Citations: 29) Abdulkadar, A; Food Addit Contam 2003, 20, 1164
Citations: 30) Schachterle, S; J Chromatogr A 1996, 754, 411
Citations: 31) Plomley, J; Mass Spectrom Rev 2000, 19, 305
Citations: 32) Currie, L; Anal Chim Acta 1999, 391, 105 A multiresidue method for detg. major pesticides and polycyclic arom. hydrocarbons (PAHs) in olive oils in a single injection by use of gas chromatog./tandem mass spectrometry (GC-MS/MS) is proposed. Samples are previously extd. with an acetonitrile/n-hexane mixt. and cleaned up by gel permeation chromatog. Electron ionization and chem. ionization allow pesticides and PAHs to be detd. in a single anal. The precision obtained was quite satisfactory (relative std. deviations ranged from 3 to 7.8%), and so were recoveries (84-110%). The linear relation was obsd. from 1 to 500 mg/kg for pesticides and 0.3 to 200 mg/kg for PAHs; also, the detn. coeff., R 2, was better than 0.995 in all instances. The proposed method was applied to the routine anal. of PAH and pesticide residues in virgin and refined olive oil and olive-pomace oil samples. [on SciFinder (R)] 0021-9673 pesticide/ PAH/ olive/ oil/ pomace/ GC/ MSMS

98. Bangma, Chr. H., Grobbee, D. E., and Schroder, F. H. (1995). Volume adjustment for intermediate prostate- specific antigen values in a screening population. *European Journal of Cancer* 31: 12-14.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

In a screening population of 812 men, between the ages of 55 and 77 years, and prostate-specific antigen (PSA) below 10.0 ng/ml (Hybritech), digital rectal examination (DRE) and transrectal ultrasonography of the prostate (TRUS) were performed. Seventeen prostate carcinomas were detected. Four methods of prostate volumetry were used to determine volume-adjusted PSA levels. These were PSA density for the total gland volume (PSAD), for the inner zone volume (PSAT) and population-specific excess PSA values. There was a significant difference between the benign and the malignant population for age, PSA, PSAD, PSAT and excess PSA values. The maximal discriminatory potential, analysed by the area under receiver ROC curve, was 0.90, reached for prolate spheroid determined excess PSA. For PSA alone this was 0.86. Volume-adjusted PSA values have no additional benefit beyond unadjusted values in screening for prostate carcinoma in this study. prostatic carcinoma/ screening/ PSA/ ultrasonography
http://www.sciencedirect.com/science/article/B6T68-3YMFV3H-B5/2/5babe58f3edfcb090cc59749f14f413a

99. Banks, H. and Gasson, P. (2000). Pollen Morphology and Wood Anatomy of the Crudia Group (Leguminosae, Caesalpinioideae, Detarieae). *Botanical Journal of the Linnean Society, 134 (1-2)*

pp. 19-59, 2000.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0024-4074
Descriptors: Augouardia
Descriptors: Bathiaea
Descriptors: Colophospermum
Descriptors: Gossweilerodendron
Descriptors: Guibourtia
Descriptors: Hardwickia
Descriptors: Kingiodendron
Descriptors: Neoapaloxylon
Descriptors: Oxystigma
Descriptors: Prioria
Descriptors: Stemonoc oleus
Abstract: Pollen from all 12 and wood from 11 genera in the Crudia group have been examined using light, scanning electron and transmission electron microscopy. This group is currently of systematic interest because it is part of a tribe undergoing taxonomic revision. The pollen grains fall into four groups: (1) Oxystigma, Kingiodendron, Gossweilerodendron, Bathiaea, Neoapaloxylon, Stemonocoleus, Guibourtia and Prioria have pollen of a widespread and generalized caesalpinioid type that are small to medium sized, spheroidal to prolate, tricolporate and with a perforate exine, with some variation in surface ornamentation, aperture margins and ultrastructure. (2) Crudia pollen is tricolporate, coarsely striate with a coarsely scabrate to vermiculate aperture membrane. (3) Augouardia is tricolporate and coarsely reticulate. (4) Hardwickia and Colophospermum are pantoporate and reticulate or microreticulate-rugulate. The wood of Prioria, Oxystigma, Kingiodendron and Gossweilerodendron has diffusely arranged axial canals, and these are four genera that have recently been merged into Prioria. Bathiaea has tangentially arranged axial canals. The other genera lack normal axial canals. Crudia is distinct, with banded parenchyma and variably storied short rays, Augouardia has much less abundant axial parenchyma that is mainly scanty paratracheal and vasicentric, Guibourtia has mainly aliform parenchyma and rays variable in height and width, and Colophospermum and Hardwickia have similar paratracheal parenchyma patterns, although the rays tend to be wider in the latter. Our conclusion is that the Crudia group is not monophyletic. (C) 2000 The Linnean Society of London. 104 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Subfile: Plant Science

100. Banoub, J., Gentil, E., and Kiceniuk, J (1995). Analysis of organophosphorus pesticide residues by low energy tandem mass spectrometry using electrospray ionization. *International Journal of Environmental Analytical Chemistry* 61: 143-67.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:246960
Chemical Abstracts Number: CAN 124:310131
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Pesticides   (anal. of organophosphorus pesticide residues by low energy tandem

mass spectrometry using electrospray ionization); Mass spectrometry (tandem, electrospray; anal. of organophosphorus pesticide residues by low energy tandem mass spectrometry using electrospray ionization)
CAS Registry Numbers: 86-50-0 (Azinphos-methyl); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl) Role: ANT (Analyte), ANST (Analytical study) (anal. of organophosphorus pesticide residues by low energy tandem mass spectrometry using electrospray ionization) Electrospray mass spectrometry was used for structural characterization of a series of phosphorothioates and phosphorodithioates and for detection of organophosphorus pesticides. Possible fragmentation routes were first obtained by cone voltage dissocn. Low energy collision-activated dissocn. (CAD) MS/MS analyses of the protonated mol. ion [M+H]+ confirmed the characteristic fingerprint patterns obtained by cone voltage fragmentation for all investigated pesticides and also permitted differentiation of isomeric phosphorodithioates. MS/MS product and precursor ion spectra of selected intermediate fragments provided addnl. structural data and allowed rationalization of the fragmentation routes. Electrospray MS has proved to be a specific and very sensitive method for characterization of organophosphorus pesticides and allowed detection at levels as low as 10 mg/g. [on SciFinder (R)] 0306-7319 tandem/ mass/ spectrometry/ phosphorus/ pesticide

101. Barcelo, D. (1988). A Review of Liquid Chromatography in Environmental Pesticide Analysis. *Chromatographia* 25: 928-936.
Chem Codes : Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW ELECTROCHEMICAL DETECTION UV DETECTION
MESH HEADINGS: ISOTOPES
MESH HEADINGS: RADIATION
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: DARKNESS
MESH HEADINGS: LIGHT
MESH HEADINGS: LIGHTING
MESH HEADINGS: ELECTRICITY
MESH HEADINGS: GRAVITATION
MESH HEADINGS: MAGNETICS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Radiation-Radiation and Isotope Techniques
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: External Effects-Light and Darkness
KEYWORDS: External Effects-Electric
KEYWORDS: Pest Control
LANGUAGE: eng

102. Barcelo, D. , Chiron, S., Lacorte, S., Martinez, E., Salau, J. S., and Hennion, M. C. (1994). Solid-Phase Sample Preparation and Stability of Pesticides in Water Using Empore Disks. *Trends in analytical chemistry* 13: 352-361.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW GAS CHROMATOGRAPHY MASS SPECTROMETRY ANALYTICAL METHOD
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Ecology
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

103. Barcelo, D. , Durand, G., Vreeken, R. J., De Jong, G. J., Lingeman, H., and Brinkman, U. A. T (1991). Evaluation of eluents in thermospray liquid chromatography-mass spectrometry for identification and determination of pesticides in environmental samples. *Journal of Chromatography* 553: 311-28.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:626031
Chemical Abstracts Number: CAN 115:226031
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, by thermospray liq. chromatog.-mass spectrometry, eluents for); Environmental analysis (pesticides detn. in, by thermospray liq. chromatog.-mass spectrometry, eluents for); Mass spectroscopy (thermospray liq. chromatog. combined with, for detn. of pesticides, eluents for); Chromatography (high-performance, reversed-phase, thermospray, mass spectrometry combined with, for detn. of pesticides, eluents for)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-38-2 (Parathion-ethyl); 63-25-2 (Carbaryl); 87-86-5; 93-72-1 (Silvex); 93-76-5 (2,4,5-T); 94-75-7 (2,4-D); 95-95-4 (2,4,5-Trichlorophenol); 115-90-2 (Fensulfothion); 120-83-2 (2,4-Dichlorophenol); 122-14-5 (Fenitrothion); 150-68-5 (Monuron); 311-45-5 (Paraoxon); 330-55-2 (Linuron); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 1912-24-9 (Atrazine); 2921-88-2 (Chlorpyrifos); 21725-46-2 (Cyanazine); 23103-98-2; 23135-22-0 (Oxamyl); 49866-87-7 (Difenzoquat) Role: ANT (Analyte), ANST (Analytical study) (detn. of, by thermospray liq. chromatog.-mass spectrometry, eluents for) The influence of different eluents in pos. and neg. ion mode thermospray liq. chromatog.-mass spectrometry was studied with several groups of pesticides, including carbamates, chlorotriazines, phenylureas, phenoxy acids and organophosphorus and quaternary ammonium compds., and the corresponding degrdn. products. Using the pos. ion mode in combination with reversed-phase eluents the base peaks generally corresponded either to [M + H]+ for the chlorotriazines and their hydroxy metabolites or to [M + NH4]+ for the carbamates, the phenylureas, the organophosphorus pesticides and their O analogs. In the neg. ion mode different processes such as (dissociative) electron-capture and anion attachment mechanisms occurred. Fragment ions such as [M - CONHCH3]- for the carbamates, [M - H]- for the chlorotriazines, phenylureas and chlorinated phenoxy acids and [M].bul.-, [M - R]- (R = Me or Et) for organophosphorus pesticides were usually formed. Depending on the

eluent additive used (ammonium acetate, ammonium formate and/or chloroacetonitrile), three different adduct ions were formed: [M + CH3COO]-, [M + HCOO]-, and [M - Cl]+. Normal-phase eluents with cyclohexane, n-hexane and/or dichloromethane provided more structural information and enhanced the response of several compds. The pos. ion mode was useful for the detection of chlorinated phenoxy acids and chlorophenols which could not be detected in the pos. ion mode using reversed-phase systems. The base peaks generally corresponded to [M].bul.+, [M + H]+ or [M - Cl]+. For the characterization of difenzoquat, a quaternary ammonium pesticide of which trace level anal. is troublesome, a post-column ion-pair extn. system was used. An aq. mobile phase with a sulfonate-type counter ion was applied and an extn. solvent contg. cyclohexane-dichloromethane-n-butanol (45:45:10) was used in thermospray liq. chromatog.-mass spectrometry. Illustrative examples of the detn. of residue levels of pesticides in soil matrixes are shown. [on SciFinder (R)] 0021-9673 pesticide/ liq/ chromatog/ mass/ spectrometry

104. Barcelo, D. , Sole, M., Durand, G., and Albaiges, J (1991). Analysis and behavior of organophosphorus pesticides in a rice crop field. *Fresenius' Journal of Analytical Chemistry* 339: 676-83.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:242674
Chemical Abstracts Number: CAN 114:242674
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 61, 80
Document Type: Journal
Language: written in English.
Index Terms: Rice (organophosphorus pesticide detn. and behavior in ecosystem of); Mytilus galloprovincialis; Ostrea edulis; Tapes semidecussatus (organophosphorus pesticide residues in); Soil analysis; Waste solids (organophosphorus pesticides detn. in, by gas chromatog., in rice ecosystem); Pesticides (phosphorus-contg., detn. and behavior of, in rice field)
CAS Registry Numbers: 122-14-5 (Fenitrothion); 22248-79-9 Role: ANT (Analyte), ANST (Analytical study) (detn. and behavior of, in rice field); 121-75-5 (Malathion); 298-00-0 (Methyl-parathion); 732-11-6 (Phosmet); 2921-88-2 (Chlorpyrifos); 24017-47-8 (Triazophos) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in rice ecosystem); 7732-18-5 (Water) Role: ANST (Analytical study) (organophosphorus pesticides detn. in, by gas chromatog., of rice ecosystem) A comprehensive anal. protocol for the detn. of organophosphorus pesticides in the biotic and abiotic compartments of a rice crop field (Ebro delta, Spain) is described. This includes two alternative clean-up procedures (Florisil column chromatog. and Bio Beads SX-3 gel permeation chromatog.) and gas chromatog. anal. with nitrogen-phosphorus and mass spectrometric detection. Among the pesticides identified, fenitrothion was the most abundant with residue levels in sediment samples varying from 1-3 mg/g in the first day of application to 0.5 mg/g two days after, whereas in the water canals the concns. were 3-10 mg/L, after aircraft application, with a rapid decrease several hours later. Half lives of fenitrothion in water and sediment samples under natural conditions have been estd. to be lower than 1 day and between 1 and 1.5 days, resp., with volatilization and microbial degrdn. accounting for this decay. The bivalves analyzed in the coastal bays (Tapes semidecussatus, Ostrea edulis and Mytilus galloprovincialis) exhibited residue levels between 20 and 90 ng/g of organophosphorus pesticides, fenitrothion being the most abundant organophosphorus pesticide. These levels are likely in the safe range for bivalves but not for other organisms such as crustacea, which are sensitive to water concns. of 0.1 mg/L. [on SciFinder (R)] 0937-0633 phosphorus/ pesticide/ detn/ rice/ ecosystem

105. Barcelo, Damia, Durand, Gael, Vreeken, Robert J., De Jong, Gerhardus J., and Brinkman, Udo A. T (1990). Nonpolar solvents for normal-phase liquid chromatography and postcolumn extraction in thermospray liquid chromatography/mass spectrometry. *Analytical Chemistry* 62: 1696-700.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1990:470420
Chemical Abstracts Number: CAN 113:70420
Section Code: 80-6
Section Title: Organic Analytical Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Herbicides (organochlorine, thermospray liq. chromatog./mass spectrometry of); Pesticides (organophosphorus, thermospray liq. chromatog./mass spectrometry of); Extraction (post-column, in thermospray liq. chromatog./mass spectrometry); Chromatography (thermospray mass spectrometry combined with, of organochlorine and organophosphorus compds., nonpolar solvents in); Mass spectra (chem.-ionization, of organochlorine and organophosphorus compds., with nonpolar solvents); Carboxylic acids; Phenols Role: ANST (Analytical study) (chloro, thermospray liq. chromatog./mass spectrometry of, nonpolar solvents in); Mass spectroscopy (thermospray-ionization, liq. chromatog. combined with, of organochlorine and organophosphorus compds., nonpolar solvents in)
CAS Registry Numbers: 71-36-3 (1-Butanol); 75-09-2 (Dichloromethane) Role: ANST (Analytical study) (eluents contg., in thermospray liq. chromatog./mass spectrometry of organochlorine and organophosphorus compds.); 110-54-3 (Hexane); 110-82-7 (Cyclohexane) Role: ANST (Analytical study), USES (Uses) (eluents contg., in thermospray liq. chromatog./mass spectrometry of organochlorine and organophosphorus compds.); 52-68-6 (Trichlorfon); 56-38-2 (Parathion-ethyl); 87-86-5 (Pentachlorophenol); 93-72-1 (Silvex); 93-76-5 (2,4,5-T); 94-75-7; 95-95-4 (2,4,5-Trichlorophenol); 115-90-2; 120-83-2 (2,4-Dichlorophenol); 299-84-3 (Ronnel); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 2921-88-2 (Chlorpyrifos) Role: ANST (Analytical study) (thermospray liq. chromatog./mass spectrometry of, nonpolar solvents in) The use of n-hexane, cyclohexane, and dichloromethane as liq. chromatog. eluents has been explored in thermospray liq. chromatog./mass spectrometry (TSP LC/MS). By use of pos. and neg. ion modes (PI and NI, resp.), and the filament-on mode, three different groups of model compds. have been studied: organophosphorus pesticides, chlorophenols, and chlorinated phenoxy acid herbicides. In the PI mode, [M + H]+ was the base peak for the organophosphosphorus pesticides in all solvents, and [M].bul.+, [M - H]+, or [M - Cl]+ were the base peaks for the other compds. depending on the solvent used. In the NI mode, the functional group fragment [FG]-, [M - R]- (R = Me or Et), [M + Cl]-, and [M - HCl]- were the base peaks for the organophosphorus pesticides. Depending on the compd. and the solvent used, [M - HCl]-, [M - H]-, [M + H]- and [M + Cl]- were the base peaks for the chlorophenols and the chlorinated phenoxy acids. The formation of a chloride attachment ion, [M + Cl]-, was more important when cyclohexane or dichloromethane were used as eluents. By use of PI and NI modes under full scan conditions, detection limits in the low nanogram range were obtained. The sensitivity in the PI mode improved 1 order of magnitude compared with previous studies using reversed-phase eluents in TSP LC/MS. Two applications are reported: (1) the anal. of organophosphorus pesticides, using n-hexane-dichloromethane (50:50) as LC eluent, and (2) the use of a postcolumn extn. system with cyclohexane-dichloromethane-1-butanol (45:45:10) as extn. solvent after the ion-suppressed LC sepn. of chlorinated phenoxy acids using acetonitrile-water contg. a nonvolatile buffer. [on SciFinder (R)] 0003-2700 liq/ chromatog/ thermospray/ mass/ spectrometry;/ nonpolar/ solvent/ normal/ phase/ liq/ chromatog;/ postcolumn/ extn/ liq/ chromatog;/ organophosphorus/ pesticide/ liq/ chromatog/ mass/ spectrometry;/ chloro/ phenol/ liq/ chromatog/ mass/ spectrometry;/ chlorophenoxyacetic/ acid/ liq/ chromatog/ mass/ spectrometry;/ herbicide/ chloro/ liq/ chromatog/ mass/ spectrometry

106. Barden, J. A. and Marini, R. P. (1998). Incidence of Diseases on Fruit of Nine Apple Genotypes as Influenced by Six Fungicide Treatments. *Fruit Var.J.* 52: 128-136.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: MIXTURE/NO CONC.

107. Barrek, Sami, Paisse, Olivier, and Grenier-Loustalot, Marie-Florence (2003). Determination of residual pesticides in olive oil by GC-MS and HPLC-MS after extraction by size-exclusion chromatography. *Analytical and Bioanalytical Chemistry* 376: 355-359.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2003:404638
Chemical Abstracts Number: CAN 139:213087
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (HPLC combined with; detn. of residual pesticides in olive oil by GC-MS and HPLC-MS after extn. by size-exclusion chromatog.); Food contamination; Pesticides; Size-exclusion chromatography (detn. of residual pesticides in olive oil by GC-MS and HPLC-MS after extn. by size-exclusion chromatog.); Olive oil Role: AMX (Analytical matrix), ANST (Analytical study) (detn. of residual pesticides in olive oil by GC-MS and HPLC-MS after extn. by size-exclusion chromatog.); Mass spectrometry (gas chromatog. combined with; detn. of residual pesticides in olive oil by GC-MS and HPLC-MS after extn. by size-exclusion chromatog.); Gas chromatography; HPLC (mass spectrometry combined with; detn. of residual pesticides in olive oil by GC-MS and HPLC-MS after extn. by size-exclusion chromatog.); Food analysis (of residual pesticides in olive oil by GC-MS and HPLC-MS after extn. by size-exclusion chromatog.)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 115-29-7 (Endosulfan); 137-26-8 (Thiram); 732-11-6 (Phosmet); 759-94-4 (EPTC); 1912-24-9 (Atrazine); 2312-35-8 (Propargite); 2540-82-1 (Formothion); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 17804-35-2 (Benomyl); 22781-23-3 (Bendiocarb); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1D (Permethrin); 55285-14-8 (Carbosulfan); 68359-37-5 (Cyfluthrin); 91465-08-6; 101007-06-1 (Acrinathrin); 120928-09-8 (Fenazaquin); 138261-41-3 (Imidacloprid) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (detn. of residual pesticides in olive oil by GC-MS and HPLC-MS after extn. by size-exclusion chromatog.)
Citations: 1) Lentza-Rizos, H; Analyst 1990, 115, 1037
Citations: 2) Hiskia, A; J Agric Food Chem 1998, 46, 570
Citations: 3) Cabras, P; Food Addit Contam 2000, 17, 855
Citations: 4) Gillespie, A; J AOAC Int 1995, 78, 431
Citations: 5) Hopper, M; J AOAC Int 1997, 80, 639
Citations: 6) Ramesh, A; Analyst 1998, 123, 1799
Citations: 7) Hopper, M; J Agric Food Chem 1982, 30, 1038
Citations: 8) Sannino, A; J AOAC Int 1996, 79, 1434
Citations: 9) Sannino, A; J AOAC Int 1998, 81, 1048
Citations: 10) Sannino, A; J AOAC Int 1999, 82, 1229
Citations: 11) Jongenotter, G; J High Resol Chromatogr 1998, 22, 17 This work describes the development of a method for analyzing pesticide residues in olive oil by GC-MS and HPLC-MS. Pesticides were sepd. from the oily matrix by size-exclusion chromatog. After extn., 20 pesticides were sepd. and analyzed by GC-MS and 11 others HPLC-MS in electrospray mode. The development of this method enabled us to identify and quantify the pesticides of interest. [on SciFinder (R)] 1618-2642 pesticide/ detn/ olive/ oil/ GC/ MS/ size/ exclusion/ chromatog

108. Barrett, M. R. (1996). The Environmental Impact of Pesticide Degradates in Groundwater. *Meyer, m. T. And e. M. Thurman (ed.). Acs symposium series, 630. Herbicide metabolites in surface water and groundwater* Symposium held during the 209th national meeting of the american chemical society, anaheim, california, usa, april 2-7, 1995. X+318p. American chemical society: washington, dc, usa. Isbn 0-8412-3405-1.; 630: 200-225.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER MEETING PAPER PESTICIDE DEGRADATES ENVIRONMENTAL IMPACT POLLUTANTS GROUNDWATER POLLUTION GROUNDWATER ECOLOGY PESTICIDES
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Symposia
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

109. Barron, S., Razani, L. J., Gallegos, R. A., and Riley, E. P. (1995). Effects of Neonatal Ethanol Exposure on Saccharin Consumption. *ALCOHOLISM CLINICAL AND EXPERIMENTAL RESEARCH* 19: 257-261.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Prenatal ethanol exposure has been associated with alterations in a variety of sexually dimorphic behaviors in rats. This study examined the effects of neonatal ethanol exposure on saccharin consumption, a sexually dimorphic behavior in rats. Subjects were Sprague-Dawley rats that were artificially reared (AR) from postnatal day (PN) 4-PN12 through gastrostomy tubes with ethanol exposure limited to PN4-PN10. The AR groups included two ethanol doses (6 g/kg/day and 4 g/kg/day) and an isocaloric maltose-dextrin control. A sham surgery control group was also included. The AR subjects were returned to their dams on PN13. At 21 days of age, subjects were housed with one same-sex sibling and free access to rat chow and water until testing. Subjects were tested for saccharin preference and consumption at 110 days of age. Typically, male rats consume less saccharin than females, and this was evident in the 4 g/kg ethanol group and both control groups. However, this was not appa
MESH HEADINGS: SEX DETERMINATION (GENETICS)
MESH HEADINGS: SEX DIFFERENTIATION
MESH HEADINGS: BEHAVIOR, ANIMAL
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: SUBSTANCE-RELATED DISORDERS
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: CHILD DEVELOPMENT
MESH HEADINGS: PEDIATRICS
MESH HEADINGS: EMBRYOLOGY
MESH HEADINGS: FETAL DEVELOPMENT
MESH HEADINGS: LARVA
MESH HEADINGS: MURIDAE
KEYWORDS: Genetics and Cytogenetics-Sex Differences
KEYWORDS: Behavioral Biology-Animal Behavior
KEYWORDS: Biochemical Studies-General
KEYWORDS: Psychiatry-Addiction-Alcohol
KEYWORDS: Toxicology-General
KEYWORDS: Pediatrics
KEYWORDS: Developmental Biology-Embryology-General and Descriptive
KEYWORDS: Muridae
LANGUAGE: eng

110. Barthe, Philippe, Pujade-Renaud, Valerie, Breton, Frederic, Gargani, Daniel, Thai, Robert, Roumestand, Christian, and de Lamotte, Frederic (2007). Structural Analysis of Cassiicolin, a Host-selective Protein Toxin from Corynespora cassiicola. *Journal of Molecular Biology* 367: 89-101.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, BIOLOGICAL TOXICANT.

Cassiicolin is a host-selective toxin (HST) produced by the fungus Corynespora cassiicola (strain CCP). It is responsible for the Corynespora leaf fall (CLF) disease, which is among the main pathologies affecting rubber tree (Hevea brasiliensis). Working on purified cassiicolin and using electron microscopy, we have demonstrated that this 27-residue O-glycosylated protein is able to induce cellular damages identical to those induced by the fungus on rubber tree leaves and displays the same host selectivity. The solution structure and disulfide pairing of cassiicolin have been determined using NMR spectroscopy and simulated annealing calculations. Cassiicolin appears to have an original structure with a prolate ellipsoid shape. It adopts an over-all fold consisting of three strands arranged in a right-handed twisted, antiparallel [beta]-sheet knitted by three disulfide bonds. Its conformation resembles that found in small trypsine-like inhibitors isolated from the brain, the fat body and the hemolymph of locust grasshoppers. But cassiicolin has no sequence homology with these protease inhibitors, and lacks their characteristic substrate-binding loop. Probably, this motif represents one of the few highly stabilized "minimal" scaffolds, with a high sequence permissiveness, that nature has selected to evolve over different phyla and to support different functions. The knowledge of the 3D structure opens the way to the delineation of the mechanism of action of the toxin using site-directed mutagenesis. HST/ Corynespora/ NMR structure/ post-translational modifications/ pathogenicity
http://www.sciencedirect.com/science/article/B6WK7-4MH29D2-4/2/9d8f9e1143c961576aa24bbfa84e28cd

111. Barton, W. D. and Hughey, J. C. (Dara Solid Storage Facility Evaluation and Recommendations, Y-12 Bear Creek Burial Grounds, Oak Ridge, Tennessee. Environmental Restoration Program. *Govt reports announcements & index (gra&i), issue 10, 1993*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: The Disposal Area Remedial Action (DARA) Solid Storage Facility (SSF) is a rectangular concrete vault with two high-density Polyethlene (HDPE) liners and covered with a metal building. The SSF was originally designed and constructed to receive saturated sediments from the excavation of the Oil Retention Ponds and Tributary 7 at the Oak Ridge Y-12 Plant. The sediments placed in the SSF were generally high-water-content soils contaminated with polychlorinated biphenyls (PCBs) and volatile organic carbons. The facility was intended to dewater the sediments by allowing the free water to percolate to a 6-in. sand layer covering the entire floor of the facility. The sand layer then drained into sumps located at the east and west ends of the facility. An application for a Part-B Permit was submitted to the state of Tennessee in February 1992 (MMES 1992a). This report is being submitted to support approval of that permit application and to address certain issues known to the regulators regarding this fa
KEYWORDS: Polychlorinated Biphenyls
KEYWORDS: Sediments
KEYWORDS: Remedial Action

112. Baschong, Werner, Aebi, Ueli, Baschong-Prescianotto, Cristina, Dubochet, Jaques, Landmann, Lukas, Kellenberger, Eduard, and Wurtz, Michel (1988). Head structure of bacteriophages T2 and T4. *Journal of Ultrastructure and Molecular Structure Research* 99: 189-202.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, BACTERIA.

The length-to-width ratios of bacteriophage T2 and T4 heads and stereometric angles specifying the prolate icosahedral T2 capsid were evaluated on electron micrographs recorded from samples prepared by a variety of methods. The copy numbers of the major capsid protein, gp23*, of T2 and T4 phages were compared by quantitative gel electrophoresis. Taken together, the resulting values are most compatible with triangulation numbers T = 13 and Q = 21 for both T2 and T4, thus

confirming the previously proposed capsid architecture of T4 revealed by indirect measurements and thereby eliminating the repeatedly reported discrepancy between T2 and T4 in favor of a common Q number of 21 corresponding to 960 copies of gp23*.
http://www.sciencedirect.com/science/article/B7MF8-4K8YCH1-1/2/f1457c78cddb0fdbbfbd805323808935

113. Batora, I., Batora, V., and Bystricky, L. (1985). Biological Exposure Test for Phosmet an Experimental Study. *Prac lek* 37: 199-202.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RAT O PHTHALIC-ACID ORGANOPHOSPHORUS PESTICIDE TOXICITY FORENSIC MEDICINE GAS CHROMATOGRAPHY
MESH HEADINGS: FORENSIC MEDICINE
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: MOVEMENT
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: GRASSES/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: MURIDAE
KEYWORDS: General Biology-Forensic Science
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Movement (1971-)
KEYWORDS: Pathology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Agronomy-Weed Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Muridae
LANGUAGE: cze

114. Baum, Oliver, Esser, Simone, Gierse, Niels, Brunken, Sandra, Lewen, Frank, Hahn, Josef, Gauss, Jurgen, Schlemmer, Stephan, and Giesen, Thomas F. (2006). Gas-phase detection of HSOD and empirical equilibrium structure of oxadisulfane: SPECTROSCOPY WITH AN ASTRONOMICAL FOCUS: EXPERIMENTAL AND THEORETICAL STUDIES OF SMALL MOLECULES: - A Collection of Invited Papers in Honor of Professor Gisbert Winnewisser on the Occasion of his 70th Birthday. *Journal of Molecular Structure* 795: 256-262.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

We present the first gas phase spectra of singly deuterated oxadisulfane, HSOD, in its vibrational ground state. More than 100 transitions have been recorded with highest frequency accuracy using the Cologne Terahertz Spectrometer. The molecular parameters derived from a least squares fit analysis proof HSOD to be an almost accidental symmetric prolate top molecule with an asymmetry parameter [kappa]=-0.9985. Spectra of c-type and weaker b-type transitions have been recorded in the range from 716 to 772 GHz. The ratio of the dipole moments [mu]c/[mu]b=2.4(3) has been derived from measured line intensities. The c-type transitions are split by the tunneling motion of a hindered internal rotation, whereas b-type transitions show no splitting within the Doppler limited line profiles. We derived the equilibrium molecular structure of oxadisulfane, HSOH, from experimental values of the rotational constants A0, B0, and C0 of HSOH, H34SOH, DSOD, and HSOD. The equilibrium rotational constants Ae, Be, and Ce were derived by taking vibration-rotation interaction constants [alpha]r obtained from high-level ab initio calculations into account. HSOD/ oxadisulfane/ HSOH/ Molecular structure/ Terahertz spectroscopy
http://www.sciencedirect.com/science/article/B6TGS-4JRM15H-3/2/923eda958daf5ac9caedc6cf91ab7130

115. Bauw, D. H. , De Wilde P Gm, Rood, G. A., and Aalbers, T. G. (1991). A Standard Leaching Test, Including Solid Phase Extraction, for the Determination of Pah Leachability From Waste Materials. *Chemosphere* 22: 713-722.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The Standard Leaching Test (SLT) is drafted in order to make an estimate of the metal emission from metal contaminated waste-materials. A modification of SLT is developed and tested for research of the leaching behaviour of hydrophobic organic compounds. It encompasses the leaching procedure, treatment and enrichment of the percolate fractions. A cartridge sampling technique is described for the collection of polycyclic aromatic hydrocarbons (PAH) from the percolates. The modified SLT is applied successfully on two environemental samples, polluted with PAH. Data from the SLT are used to classify waste materials according to Dutch governmental regulations dealing with re-use and landfilling.
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: MINERALS/ANALYSIS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
KEYWORDS: General Biology-Institutions
KEYWORDS: Biochemical Methods-Minerals
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
LANGUAGE: eng

116. Bayona, J. M., Casellas, M., Fernandez, P., Solanas, A. M., and Albaiges, J. (1994). Sources and Seasonal Variability of Mutagenic Agents in the Barcelona City Aerosol. *Chemosphere* 29: 441-450 .
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Organic extracts (dichloromethane) isolated

from airborne particulate matter, collected in two sampling sites located in the Barcelona City, were mutagenic in the Salmonella typhimurium (TA98 +/-S9) bioassay. The highest direct-acting mutagenicity (69-78 rev m-3) was during fall and spring, which corresponds to the highest levels of mutagenic nitroarenes (248 to 350 pg m-3). On the other hand, the highest level of indirect-acting mutagenicity was obtained in summer, paralleling with the highest concentrations of polycyclic aromatic ketones and polycyclic aromatic quinones. Furthermore, the sources of PAH in the urban particulate matter were estimated from the ratio of the less reactive components (i.e. benzofluranthenes/benzo(e)pyrene, indeno(1,2,3-cd)pyrene/benzo(ghi)perylene, methylphenantherenes/phenanthrene) and reflected a predominance of pyrolytic mobile sources (i.e. vehicular emissions). Nevertheless, a contribution of stationary sources in winter was also appa
MESH HEADINGS: GENETICS
MESH HEADINGS: CYTOGENETICS
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: BACTERIA/PHYSIOLOGY
MESH HEADINGS: BACTERIA/METABOLISM
MESH HEADINGS: BACTERIA/GENETICS
MESH HEADINGS: VIRUSES/GENETICS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BIOLOGICAL ASSAY
MESH HEADINGS: FERMENTATION
MESH HEADINGS: INDUSTRIAL MICROBIOLOGY
MESH HEADINGS: ENTEROBACTERIACEAE
KEYWORDS: Genetics and Cytogenetics-General
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Physiology and Biochemistry of Bacteria
KEYWORDS: Genetics of Bacteria and Viruses
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Food and Industrial Microbiology-Biosynthesis
KEYWORDS: Enterobacteriaceae (1992-)
LANGUAGE: eng

117. Bechtold, D. B. and Pacquet, E. A. (Bench Scale Saltcake Dissolution Test Report. *Govt reports announcements & index (gra&i), issue 10, 2003*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

ABSTRACT: Prepared in cooperation with Numatec Hanford Corp., Richland, WA. Sponsored by Department of Energy, Washington, DC. Assistant Secretary for Environmental Management.
ABSTRACT: A potential scenario for retrieving saltcake from single shell tanks is the 'Rainbird(Registered trademark) sprinkler' method. Water is distributed evenly across the surface of the saltcake and allowed to percolate by gravity through the waste. The salt dissolves in the water, forming a saturated solution. The saturated liquid is removed by a saltwell pump situated near the bottom of the tank. By this method, there is never a large inventory of liquid in the tank that could pose a threat of leakage. Exploratory laboratory bench-scale tests were completed to evaluate physical and chemical parameters associated with dissolution of a simulated Hanford saltcake waste by this method. This task was performed for, and in collaboration with, River Protection Project (RPP) Retrieval Engineering, Retrieval System Development. This work was

funded by the Tanks Focus Area (EM-50) under Technical Task Plan Number RL09WT22 and satisfies Milestone A. 1-3, 'Perform Saltcake Dissolution Retrieval Tests'.
KEYWORDS: Dissolution
KEYWORDS: Testing
KEYWORDS: Tests
KEYWORDS: Hydrodynamics
KEYWORDS: Flow
KEYWORDS: Radioactive waste processing
KEYWORDS: Tanks
KEYWORDS: Saltcake

118. Becker, M. and Raasch, U. (Sustainable Rainwater Management in the Emscher River Catchment Area. *Water sci technol. 2002; 45(3):159-66. [Water science and technology : a journal of the international association on water pollution research]: Water Sci Technol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: The wastewater management system of the Emscher region is currently being radically restructured. The receiving waters currently surviving as open sewers are to be freed of their wastewater burden and reconstituted to a state as natural as possible, while the wastewater is to be routed underground to the treatment plants. Great importance is attached to the most natural possible rainwater management, in order to buffer extreme run-off situations in the watercourses and to minimize the costs for residential-area water management engineering. Rethinking, which in many cases percolates through only slowly, is necessary in many respects for this purpose. A contest has been set up in the Emscher catchment area in order to accelerate this in the existing residential areas. Seepage, decentralized retention, disconnection and discharge into bodies of water and watercourses have been financially supported. The results are presented and the further procedure deriving from them discussed.
MESH HEADINGS: *Conservation of Natural Resources
MESH HEADINGS: Environment
MESH HEADINGS: Germany
MESH HEADINGS: *Rain
MESH HEADINGS: Waste Disposal, Fluid
MESH HEADINGS: Water Movements
MESH HEADINGS: Water Pollution/*prevention &amp
MESH HEADINGS: control
MESH HEADINGS: *Water Supply
LANGUAGE: eng

119. Beckman, Herman and Garber, Dennis (1969). Pesticide residues. Recovery of 65 organophosphorus pesticides from Florisil with a new solvent-elution system. *Journal - Association of Official Analytical Chemists* 52: 286-93.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1969:86520
Chemical Abstracts Number: CAN 70:86520
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, solvent-elution system for)
CAS Registry Numbers: 52-68-6; 52-85-7; 55-38-9; 56-38-2; 56-72-4; 60-51-5; 62-73-7; 78-34-2; 78-48-8; 86-50-0; 97-17-6; 115-90-2; 115-93-5; 121-75-5; 122-10-1; 122-14-5; 126-75-0; 141-66-2; 150-50-5; 297-97-2; 298-00-0; 298-02-2; 298-03-3; 298-04-4; 299-84-3; 299-86-5; 300-76-5; 301-12-2; 327-98-0; 333-41-5; 470-90-6; 563-12-2; 640-15-3; 732-11-6; 786-19-6; 867-73-2; 944-

22-9; 947-02-4; 950-37-8; 953-17-3; 961-11-5; 1491-41-4; 1754-58-1; 1757-18-2; 2104-64-5; 2279-71-2; 2463-84-5; 2642-71-9; 2921-88-2; 3254-63-5; 3383-96-8; 4104-14-7; 6923-22-4; 7700-17-6; 7786-34-7; 10265-92-6; 13171-21-6; 13194-48-4; 13265-60-6; 14816-18-3; 14816-20-7; 23609-75-8 Role: ANT (Analyte), ANST (Analytical study) (detn. of) The recoveries of 65 organophosphorus pesticides from Florisil were measured. The data include reports of min. detectable amts. of each compd. on a comparable basis, the elution solvent system used, the elution pattern of the compds., and a look into the structure-activity and structure-sensitivity relations among the compds. The compds. are divided into 6 groups based on the type of substituents assocd. with the P. [on SciFinder (R)] 0004-5756 residues/ pesticides/ Florisil;/ pesticides/ residues/ Florisil;/ Florisil/ pesticides/ residues

120. Beckman, Herman and Winterlin, Wray (1966). Separation and detection of submicrogram quantities of pesticides by an improved TLC technique. *Bulletin of Environmental Contamination and Toxicology* 1: 78-85.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1966:442061
Chemical Abstracts Number: CAN 65:42061
Section Code: 70
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (phosphorus or P-contg., chromatography of)
CAS Registry Numbers: 298-03-3 (Derived from data in the 7th Collective Formula Index (1962-1966); 56-38-2 (Phosphorothioic acid, O,O-diethyl O-p-nitrophenyl ester); 86-50-0 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with 3-(mercaptomethyl)-1,2,3-benzotriazin-4(3H)-one); 298-02-2 (Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester); 732-11-6 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with N-(mercaptomethyl)phthalimide); 786-19-6 (Phosphorodithioic acid, S-[[(p-chlorophenyl)thio]methyl] O,O-di-Et ester); 8065-48-3 (Systox) (chromatography of) Thin-layer chromatography (TLC) plates were stripped with a notched rubber squeegee, resulting in narrow silica-gel H strips. The pesticides, Systox, parathion, Guthion, Thimet, Imidan, and Trithion were used to test the effects of the modification. Ascending chromatography with 10% hexane in toluene gave Rf values of 0.44, 0.53, 0.04, 0.73, 0.09, and 0.88, resp. Strips 4 mm. wide gave optimum sepn. of the pesticides. [on SciFinder (R)] 0007-4861

121. Beitz, H. (Current Residue-Toxicological Problems and Their Solution. *Nachrichtenbl. Pflanzenschutzdienst ddr 27(10): 197-201* 1973.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: PESTAB General problems of the hygienic standardization of pesticide residues in food products are outlined. Studies on the possibility of substituting other, environmentally less problematic pesticides for DDT and studies on the significance of organomercurial fungicide residues in the crops and the soil are described. Continual updating of existing tolerance lists for food products; elaboration of tolerance lists for animal feed, water, air in residential areas and in workplaces; specification of waiting periods before harvesting; and standardization of analytical methods for the determination of residues of plant protection agents and growth regulators in food products, animal feed, and water are required for an effective hygienic control of pesticide residues. Various pesticide preparations and possible substitutes for DDT were tested for persistence in pea cultures. Lindane, butonate, trichlorfon, dimethoate, imidan, and methyl parathion were highly efficient and had relatively low persistence in the soil as well as in pea plants and seeds. The ban imposed on the use of organomercurials as seed dressing agents in various countries is considered unnecessary since no significant difference in the mercury levels in grains grown from dressed and undressed seeds due to the absorption of natural mercury

resources from the soil was determined.
LANGUAGE: ger

122. Belin, P. and Boquet, P. L. (The Escherichia Coli Dsba Gene Is Partly Transcribed From the Promoter of a Weakly Expressed Upstream Gene. *Microbiology. 1994, dec; 140 (pt 12):3337-48. [Microbiology (reading, england)]: Microbiology*.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: The dsbA gene of Escherichia coli encodes a periplasmic enzyme which catalyses disulfide bond formation. Analysis of its surrounding DNA region showed that it is preceded by an open reading frame, orfA, of 984 nucleotides. The intergenic region (19 nucleotides) carries no typical transcription termination signals. dsbA is transcribed from two promoters, the first (P1) lies in the distal part of orfA, and the second (P2) just upstream from orfA. Using a plasmid-borne dsbA::TnphoA fusion and an orfA::omega insertion, each promoter was shown to contribute equally to dsbA transcription. The disruption of the single chromosomal copy of orfA by omega more drastically reduced the amount of DsbA in the periplasmic space. Such a reduction of the DsbA pool, however, did not change the activities of the AppA, Agp and PhoA periplasmic phosphatases, which all require disulfide bond formation, even when the enzymes were produced from multicopy recombinant plasmids. Thus, in a wild-type strain, DsbA is far from being in limiting amounts for physiological requirements. The orfA gene product was identified as a weakly expressed 39 kDa cytoplasmic protein, but it is not involved in the overall mechanism of disulfide bond formation.
MESH HEADINGS: Amino Acid Sequence
MESH HEADINGS: Bacterial Proteins/genetics
MESH HEADINGS: Base Sequence
MESH HEADINGS: DNA, Bacterial/genetics
MESH HEADINGS: Disulfides/metabolism
MESH HEADINGS: Escherichia coli/*genetics/metabolism
MESH HEADINGS: *Escherichia coli Proteins
MESH HEADINGS: Gene Expression
MESH HEADINGS: *Genes, Bacterial
MESH HEADINGS: Isomerases/genetics
MESH HEADINGS: Molecular Sequence Data
MESH HEADINGS: Mutagenesis, Insertional
MESH HEADINGS: Open Reading Frames
MESH HEADINGS: Plasmids/genetics
MESH HEADINGS: Promoter Regions (Genetics)
MESH HEADINGS: Protein Disulfide-Isomerase
MESH HEADINGS: Protein Folding
MESH HEADINGS: Restriction Mapping
MESH HEADINGS: Transcription, Genetic
LANGUAGE: eng

123. Bellet, Eugene M. and Casida, John E (1974). Products of peracid oxidation of organothiophosphorus compounds. *Journal of Agricultural and Food Chemistry* 22: 207-11.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1974:425290
Chemical Abstracts Number: CAN 81:25290
Section Code: 25-18
Section Title: Noncondensed Aromatic Compounds
CA Section Cross-References: 23, 27, 28, 29, 5
Document Type: Journal
Language: written in English.

Index Terms: Oxidation (of organothiophosphorus insecticides by chloroperoxybenzoic acid); Insecticides (organothiophosphorus, oxidn. by chloroperoxybenzoic acid)
CAS Registry Numbers: 937-14-4 Role: RCT (Reactant), RACT (Reactant or reagent) (oxidn. of organothiophosphorus insecticides by); 56-38-2; 107-49-3; 121-75-5; 311-45-5; 333-41-5; 732-11-6; 944-22-9; 2104-64-5; 10265-92-6; 14816-18-3; 19821-06-8 Role: RCT (Reactant), RACT (Reactant or reagent) (oxidn. of, by chloroperoxybenzoic acid) Eleven organothio-phosphorus insecticides, including Liazinon and parathion, were oxidized with m-chloroperoxybenzoic acid to give S, the corresponding oxons, and often cleavage products, such as disulfides and P acids. The products were often indentical to those formed by microsomal oxidase metab. or photolysis. O-alkyl S-substituted phenyl phosphonodithioates gave substituted phenyl phosphinyl disulfides. [on SciFinder (R)] 0021-8561 thiophosphorus/ insecticide/ oxidn

124. Belliveau, P. E., Mallet, V., and Frei, R. W (1970). Spray method for the fluorescent detection of sulfur-containing organic compounds. *Journal of Chromatography* 48: 478-83.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1970:465306
Chemical Abstracts Number: CAN 73:65306
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (organothiophosphorus compds., detection of)
Index Terms(2): Sulfur Role: ANT (Analyte), ANST (Analytical study) (detection of)
CAS Registry Numbers: 55-38-9; 56-38-2; 115-93-5; 148-24-3; 298-00-0; 480-16-0; 732-11-6; 834-12-8; 1014-70-6; 2032-65-7; 7287-19-6 Role: ANT (Analyte), ANST (Analytical study) (detection of) S-contg. pesticides on thin-layer plates were made fluorescent for detection by brominating in situ and subsequently spraying with solns. contg. metals and chelating agents. The method was esp. suitable, but not specific, for organothiophosphorus compds. N,N-Dimethylselenourea also gave a pos. reaction. The detection limit was 0.1 mg parathion on silica gel plates when the spray reagents contained pyridine-2-aldehyde 2-quinolylhydrazone and Mn^{2+}, Fe^{3+}, or Cu^{2+}, quinoline-2-aldehyde 2-quinolylhydrazone and Mn^{2+}, Fe^{3+}, or Cu^{2+}, or pyridine-2-aldehyde 2-pyridylhydrazone and Mn^{2+}. [on SciFinder (R)] 0021-9673 pesticides/ sulfur/ contg/ detection;/ sulfur/ contg/ pesticides/ detection;/ fluorescence/ detection/ pesticides;/ chelates/ detection/ pesticides;/ chromatog/ pesticides

125. Bello-Ramirez, A. M., Carreon-Garabito, B. Y., and Nava-Ocampo, A. A (2000). A theoretical approach to the mechanism of biological oxidation of organophosphorus pesticides. *Toxicology* 149: 63-68.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:604737
Chemical Abstracts Number: CAN 133:318351
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Oxidation (biol.; biol. oxidn. of organophosphorus pesticides and a theor. approach to the mechanism); Enzymes Role: BAC (Biological activity or effector, except adverse), BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (heme-contg.; biol. oxidn. of organophosphorus pesticides and a theor. approach to the mechanism); Pesticides (organophosphorus; biol. oxidn. of organophosphorus

pesticides and a theor. approach to the mechanism); Organic compounds Role: ADV (Adverse effect, including toxicity), BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (phosphorus-contg., pesticides; biol. oxidn. of organophosphorus pesticides and a theor. approach to the mechanism)
CAS Registry Numbers: 56-38-2 (Parathion); 60-51-5 (Dimethoate); 78-48-8 (Tribufos); 86-50-0 (Azinphos methyl); 97-17-6 (Dichlofenthion); 732-11-6 (Phosmet); 2921-88-2 (Chlorpyrifos); 13071-79-9 (Terbufos) Role: ADV (Adverse effect, including toxicity), BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (biol. oxidn. of organophosphorus pesticides and a theor. approach to the mechanism); 9003-99-0 (Peroxidase); 9035-51-2 (Cytochrome P 450); 9055-20-3 (Chloroperoxidase) Role: BAC (Biological activity or effector, except adverse), BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (biol. oxidn. of organophosphorus pesticides and a theor. approach to the mechanism); 7722-84-1 (Hydrogen peroxide); 7723-14-0 (Phosphorus) Role: BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (biol. oxidn. of organophosphorus pesticides and a theor. approach to the mechanism); 14875-96-8 (Heme) Role: BAC (Biological activity or effector, except adverse), BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (enzymes; biol. oxidn. of organophosphorus pesticides and a theor. approach to the mechanism)
Citations: Alvarez, J; Biochemistry 1992, 31, 8315
Citations: Agyeman, A; Toxicology 1998, 128, 207
Citations: Blanke, S; J Biol Chem 1988, 263, 18739
Citations: Casella, L; Biochemistry 1992, 31, 9451
Citations: Colonna, S; Biochemistry 1990, 29, 10465
Citations: Dawson, J; Science 1988, 240, 433
Citations: Dawson, J; Chem Rev 1987, 87, 1255
Citations: Geigert, J; Biochem Biophys Res Commun 1986, 136, 778
Citations: Hager, L; J Biol Chem 1966, 241, 1769
Citations: Hernandez, J; Pesticide Biochem Physiol 1998, 61, 87
Citations: Klaassen, C; Goodman and Gilman's, The Pharmacological Basis of Therapeutics, International edn 1996, 1673
Citations: Kulkarni, A; Pharmacol Ther 1980, 8, 379
Citations: Morris, D; J Biol Chem 1966, 241, 1763
Citations: Neal, R; Biochem J 1967, 103, 183
Citations: Norman, B; Biochem Pharmacol 1974, 23, 1733
Citations: Okasaki, O; J Biol Chem 1993, 268, 1546
Citations: Ortiz de Montellano, P; J Biol Chem 1987, 262, 11641
Citations: Sultatos, L; J Toxicol Environ Health 1994, 43, 271
Citations: Sundaramoorthy, M; Structure 1995, 3, 1367
Citations: Taylor, P; Goodman and Gilman's, The Pharmacological Basis of Therapeutics, International edn 1996, 161
Citations: Zaks, A; J Am Chem Soc 1995, 117, 10419 Organophosphorus pesticides are the most common classes involved in poisonings related to pesticides. The authors used enzymic activity of chloroperoxidase on the metab. of some phosphorothioate pesticides published previously and mol. mechanics methods to perform a theor. approach of the mechanism of biol. oxidn. of this class of pesticides. The mol. structure of eight pesticides were optimized by mol. mechanics methods using the CAChe program package for biomols., ver. 3.11 (Oxford Mol. Ltd., Campbell, CA). Total energy resulted from the structure optimization process and the partial charges of both phosphorus and sulfur were computed for every pesticide. Phosphorus partial charge and enzymic activity were significantly related by linear regression anal. ($r=0.82$, $P<0.05$). Analyzing our results and using previously reported enzymic activity of chloroperoxidase on these pesticides, we deduced chem. events involved in activation of the active site of chloroperoxidase and proposed a novel mechanism of oxidn. for this class of pesticides. This mechanism will also help to understand the oxidn. process of pesticides by cytochrome P 450, and prodn. of toxic metabolites. [on SciFinder (R)] 0300-483X theor/ approach/ mechanism/ oxidn/ organophosphorus/ pesticide

126. Beresford, R. M. and Manktelow, D. W. L. (1994). Economics of Reducing Fungicide Use by Weather-

Based Disease Forecasts for Control of Venturia inaequalis in Apples. *N.Z.J.Crop Hortic.Sci.* 22: 113-120.
Chem Codes: Chemical of Concern: BMY,Captan,DOD,FRM,MZB,MYC,PSM Rejection Code: REFS CHECKED/REVIEW.

127. Berger, H. K. (1987). Officially Registered Insecticides in Rape Cultivation. *Pflanzenschutz (vienna)* 0: 11-12.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: OILS
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Agronomy-Oil Crops
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Cruciferae
LANGUAGE: ger

128. Berger, Richard Alan and Flexner, John Lindsey (20030327). Pesticidal compositions for coating plant propagation material containing anthranilamides. 147 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:242097
Chemical Abstracts Number: CAN 138:267201
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 28
Coden: PIXXD2
Index Terms: Insecticides (carbamate; in pesticidal compns. for plant propagation material contg. anthranilamides); Leaf (cutting; pesticidal compns. contg. anthranilamides for treatment of); Eubacteria; Fungi; Virus (entomopathogenic; in pesticidal compns. for plant propagation material contg. anthranilamides); Adhesives; Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; Coating materials; Fungicides; GABA antagonists; Gums and Mucilages; Latex; Sodium channel blockers (in pesticidal compns. for plant propagation material contg. anthranilamides); Macrolides Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in pesticidal compns. for plant propagation material contg. anthranilamides); Acrylic polymers; Fats and Glyceridic oils; Gelatins; Oils; Polyoxyalkylenes; Polysaccharides; Proteins; Shellac; Waxes; Zeins Role: AGR (Agricultural

use), TEM (Technical or engineered material use), BIOL (Biological study), USES (Uses) (in pesticidal compns. for plant propagation material contg. anthranilamides); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics; in pesticidal compns. for plant propagation material contg. anthranilamides); Cucumis melo (muskmelon; pesticidal compns. contg. anthranilamides for plant propagation material of); Insecticides (neonicotinoid; in pesticidal compns. for plant propagation material contg. anthranilamides); Allium cepa (ornamental; pesticidal compns. contg. anthranilamides for plant propagation material of); Achillea; Allium cepa; Anemone; Antirrhinum; Arachis hypogaea; Armeria; Avena sativa; Begonia tuberhybrida; Beta vulgaris; Brassica campestris rapa; Brassica juncea; Brassica nigra; Brassica oleracea capitata; Calla; Capsicum; Chionodoxa; Chrysanthemum; Citrullus lanatus; Coleus; Cosmos; Crocus; Cucumis sativus; Cucurbita; Cyclamen; Dahlia; Daucus carota; Dioscorea; Freesia; Geranium; Gerbera; Gladiolus; Gloxinia; Glycine max; Gossypium hirsutum; Gypsophila elegans; Helianthus annuus; Hordeum vulgare; Hyacinthus orientalis; Impatiens; Ipomoea batatas; Iris; Lactuca sativa; Liatris spicata; Lilium; Linum usitatissimum; Lisianthus; Lycopersicon esculentum; Marigold; Medicago sativa; Muscari racemosum; Narcissus; Nicotiana tabacum; Oryza sativa; Oxalis corniculata; Petunia; Phaseolus lunatus; Phaseolus vulgaris; Pisum sativum; Puschkinia libanotica; Rapeseed; Scabiosa atropurpurea; Secale cereale; Solanum melongena; Solanum tuberosum; Sorghum bicolor; Squill; Triticum turgidum durum; Tulipa; Vicia faba; Viola wittrockiana; Zea mays; Zinnia; Zizania (pesticidal compns. contg. anthranilamides for plant propagation material of); Bulb; Seed; Stem; Tuber (pesticidal compns. contg. anthranilamides for treatment of); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; in pesticidal compns. for plant propagation material contg. anthranilamides); Stem (rhizome; pesticidal compns. contg. anthranilamides for treatment of); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins; in pesticidal compns. for plant propagation material contg. anthranilamides)
CAS Registry Numbers: 362637-52-3; 362637-54-5; 362637-55-6; 362637-56-7; 362637-57-8; 362637-58-9; 362637-59-0; 362637-60-3; 362637-61-4; 362637-62-5; 362637-63-6; 362637-64-7; 362637-65-8; 362637-66-9; 362637-67-0; 362637-68-1; 362637-69-2; 362637-71-6; 362637-72-7; 362637-73-8; 362637-74-9; 362637-75-0; 362637-76-1; 362637-77-2; 362637-78-3; 362637-79-4; 362637-80-7; 362637-81-8; 362637-82-9; 362637-83-0; 362637-84-1; 362637-85-2; 362637-86-3; 362637-87-4; 362637-88-5; 362637-89-6; 362637-90-9; 362637-91-0; 362637-92-1; 362637-93-2; 362637-94-3; 362637-95-4; 362637-96-5; 362637-97-6; 362637-98-7; 362637-99-8; 362638-00-4; 362638-03-7; 362638-04-8; 362638-05-9; 362638-06-0; 362638-07-1; 362638-08-2; 362638-09-3; 362638-10-6; 362638-11-7; 362638-12-8; 362638-13-9; 362638-14-0; 362638-15-1; 362638-16-2; 362638-17-3; 362638-18-4; 362638-19-5; 362638-20-8; 362638-21-9; 362638-22-0; 362638-23-1; 362638-24-2; 362638-25-3; 362638-26-4; 362638-27-5; 362638-28-6; 362638-29-7; 362638-31-1; 362638-32-2; 362638-33-3; 362638-34-4; 362638-35-5; 362638-36-6; 362638-37-7; 362638-38-8; 362638-39-9; 362638-40-2; 362638-41-3; 362638-42-4; 362638-43-5; 362638-44-6; 362638-45-7; 362638-46-8; 362638-47-9; 362638-48-0; 362638-49-1; 362638-50-4; 362638-51-5; 362638-52-6; 362638-53-7; 362638-54-8; 362638-55-9; 362638-56-0; 362638-57-1; 362638-58-2; 362638-59-3; 362638-60-6; 362638-63-9; 362638-64-0; 362638-65-1; 362638-66-2; 362638-67-3; 362638-68-4; 362638-69-5; 362638-70-8; 362638-71-9; 362638-72-0; 362638-73-1; 362638-74-2; 362638-75-3; 362638-76-4; 362638-77-5; 362638-78-6; 362638-79-7; 362638-80-0; 362638-81-1; 362638-82-2; 362638-83-3; 362638-84-4; 362638-85-5; 362638-86-6; 362638-87-7; 362638-88-8; 362638-89-9; 362638-90-2; 362638-91-3; 362638-92-4; 362638-93-5; 362638-94-6; 362638-95-7; 362638-96-8; 362638-97-9; 362638-98-0; 362638-99-1; 362639-00-7; 362639-01-8; 362639-02-9; 362639-03-0; 362639-04-1; 362639-05-2; 362639-06-3; 362639-07-4; 362639-09-6; 362639-10-9; 362639-11-0; 362639-12-1; 362639-13-2; 362639-14-3; 362639-15-4; 362639-16-5; 362639-17-6; 362639-18-7; 362639-19-8; 362639-20-1; 362639-21-2; 362639-22-3; 362639-23-4; 362639-25-6; 362639-26-7; 362639-27-8; 362639-28-9; 362639-29-0; 362639-30-3; 362639-31-4; 362639-32-5; 362639-33-6; 362639-34-7; 362639-35-8; 362639-36-9; 362639-37-0; 362639-38-1; 362639-40-5; 362639-41-6; 362639-42-7; 362639-43-8; 362639-44-9; 362639-45-0; 362639-46-1; 362639-47-2; 362639-48-3; 362639-49-4; 362639-50-7; 362639-51-8; 362639-52-9; 362639-53-

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(Isoprothiolane); 50642-14-3 (Validamycin); 51630-58-1; 52207-48-4; 52315-07-8 (Cypermethrin); 52645-53-1; 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55219-65-3 (Triadimenol); 55814-41-0 (Mepronil); 57369-32-1 (Pyroquilon); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58842-20-9; 59669-26-0; 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 62850-32-2; 62865-36-5 (Diclomezine); 63837-33-2 (Diofenolan); 64628-44-0; 66063-05-6 (Pencycuron); 66215-27-8 (Cyromazine); 66230-04-4; 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 66841-25-6; 67306-00-7 (Fenpropidin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5; 70630-17-0 (Mefenoxam); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8; 73989-17-0 (Avermectin); 74738-17-3 (Fenpiclonil); 76674-21-0 (Flutriafol); 77732-09-3 (Oxadixyl); 78587-05-0; 79538-32-2; 79622-59-6 (Fluazinam); 79983-71-4 (Hexaconazole); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0; 83657-18-5 (Diniconazole-M); 83657-24-3 (Diniconazole); 84466-05-7 (Amidoflumet); 85509-19-9 (Flusilazole); 86479-06-3; 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 91465-08-6; 94361-06-5 (Cyproconazole); 95737-68-1; 96489-71-3; 101463-69-8; 102851-06-9; 103055-07-8; 104030-54-8 (Carpropamid); 107534-96-3 (Tebuconazole); 110488-70-5 (Dimethomorph); 111988-49-9; 112226-61-6; 112281-77-3 (Tetraconazole); 112410-23-8; 114369-43-6 (Fenbuconazole); 116255-48-2 (Bromuconazole); 116714-46-6; 118134-30-8 (Spiroxamine); 119168-77-3; 119446-68-3 (Difenoconazole); 119791-41-2 (Emamectin); 120068-37-3; 120928-09-8; 121451-02-3; 121552-61-2 (Cyprodinil); 122453-73-0 (Chlorfenapyr); 123312-89-0; 123572-88-3 (Furametpyr); 124495-18-7 (Quinoxyfen); 125116-23-6 (Metconazole); 125225-28-7 (Ipconazole); 126448-41-7 (Acibenzolar); 130000-40-7 (Thifluzamide); 131341-86-1 (Fludioxonil); 131807-57-3 (Famoxadone); 131860-33-8 (Azoxystrobin); 131983-72-7 (Triticonazole); 133408-50-1 (Metominostrobin); 133855-98-8 (Epoxiconazole); 134098-61-6; 135410-20-7 (Acetamiprid); 136426-54-5 (Fluquinconazole); 138261-41-3; 139920-32-4 (Diclocymet); 140923-17-7 (SZX0722); 141517-21-7 (Trifloxystrobin); 143390-89-0 (Kresoxim-methyl); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 149961-52-4 (Dimoxystrobin); 153233-91-1; 153719-23-4; 154025-04-4 (Flumetover); 156052-68-5 (RH 7281); 158062-67-0; 161050-58-4; 161326-34-7; 168316-95-8 (Spinosad); 170015-32-4; 173584-44-6; 175013-18-0 (Pyraclostrobin); 178928-70-6 (Prothioconazole); 179101-81-6; 180409-60-3 (Cyflufenamid); 181587-01-9; 188425-85-6 (Nicobifen); 189278-12-4 (Proquinazid); 210880-92-5 (Clothianidin); 211867-47-9 (SYP-L190); 220899-03-6 (Metrafenone); 223580-51-6 (Tiadinil); 248593-16-0 (Orysastrobin); 283594-90-1; 361377-29-9 (Fluoxastrobin) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in pesticidal compns. for plant propagation material contg. anthranilamides); 75-35-4D (Vinylidene chloride); 79-41-4D (Methylacrylic acid); 79-41-4D (Acrylimide); 8062-15-5 (Lignosulfonate); 9000-01-5 (Gum arabic); 9000-30-0 (Guar gum); 9000-36-6 (Karaya gum); 9000-65-1 (Tragacanth gum); 9002-89-5; 9002-89-5D (Polyvinyl alcohol); 9003-09-2 (Polyvinyl methyl ether); 9003-20-7D (Polyvinyl acetate); 9003-39-8 (Polyvinylpyrrolidone); 9004-32-4 (Carboxymethylcellulose); 9004-34-6D (Cellulose); 9004-53-9 (Dextrins); 9004-57-3 (Ethylcellulose); 9004-64-2 (Hydroxypropylcellulose); 9004-67-5D (Methylcellulose); 9005-25-8D (Starch); 9005-32-7 (Alginic acid); 9010-98-4 (Polychloroprene); 9011-16-9; 9012-76-4 (Chitosan); 9050-36-6 (Malto-dextrin); 25086-89-9; 25322-68-3 (Polyethylene oxide); 26022-14-0 (Polyhydroxyethyl acrylate); 30811-69-9 (Polyvinylacrylate); 37353-59-6D (Hydroxymethylcellulose); 69670-80-0 (Hydroxymethylpropylcellulose) Role: AGR (Agricultural use), TEM (Technical or engineered material use), BIOL (Biological study), USES (Uses) (in pesticidal compns. for plant propagation material contg. anthranilamides); 362637-53-4P; 362637-70-5P; 362638-30-0P; 362639-62-1P; 438450-41-0P (N-[4-Chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide); 500008-00-4P; 500008-44-6P; 500008-45-7P; 500008-60-6P; 500008-62-8P; 500010-10-6P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of anthranilamide compds. as pesticides for plant propagation material); 129585-50-8P Role: BYP (Byproduct), SPN (Synthetic preparation), PREP (Preparation) (prepn. of anthranilamide compds. as pesticides for plant propagation material); 74-89-5 (Methylamine); 75-03-6 (Iodoethane); 75-31-0 (Isopropylamine); 76-05-1 (Trifluoroacetic acid); 79-37-8 (Oxalyl

chloride); 98-59-9 (p-Toluenesulfonyl chloride); 100-63-0 (Phenylhydrazine); 109-72-8 (n-Butyllithium); 112-02-7 (Cetyltrimethylammonium chloride); 121-44-8 (Triethylamine); 124-63-0 (Methanesulfonyl chloride); 128-09-6 (N-Chlorosuccinimide); 367-57-7; 421-50-1 (1,1,1-Trifluoroacetone); 503-38-8 (Trichloromethyl chloroformate); 541-41-3 (Ethyl chloroformate); 584-08-7 (Potassium carbonate); 630-25-1 (1,2-Dibromotetrachloroethane); 1310-58-3 (Potassium hydroxide); 2402-77-9 (2,3-Dichloropyridine); 4111-54-0 (Lithium diisopropylamide); 4389-45-1 (2-Amino-3-methylbenzoic acid); 4755-77-5 (Ethyl chlorooxoacetate); 5437-38-7 (3-Methyl-2-nitrobenzoic acid); 6226-25-1 (2,2,2-Trifluoroethyl trifluoromethanesulfonate); 7087-68-5 (N,N-Diisopropylethylamine); 7664-93-9 (Sulfuric acid); 7789-69-7 (Phosphorus pentabromide); 10025-87-3 (Phosphorus oxychloride); 10035-10-6 (Hydrogen bromide); 14521-80-3 (3-Bromopyrazole); 20154-03-4 (3-Trifluoromethylpyrazole); 22206-57-1 (Tetrabutylammonium fluoride hydrate); 22841-92-5; 65753-47-1 (2-Chloro-3-trifluoromethylpyridine); 66176-17-8 (3-Methylisatoic anhydride); 133228-21-4; 458543-79-8; 499790-43-1; 500011-81-4; 500011-88-1; 500011-94-9 Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of anthranilamide compds. as pesticides for plant propagation material); 14339-33-4P (3-Chloropyrazole); 20776-67-4P (2-Amino-3-methyl-5-chlorobenzoic acid); 68289-10-1P (2-Amino-3-methyl-N-(1-methylethyl)benzamide); 120374-68-7P; 128694-66-6P; 362640-53-7P (3-Methyl-N-(1-methylethyl)-2-nitrobenzamide); 362640-58-2P; 362640-59-3P; 362640-60-6P; 362640-61-7P; 362640-62-8P; 438450-38-5P (3-Chloro-2-[3-(trifluoromethyl)-1H-pyrazol-1-yl]pyridine); 438450-39-6P; 438450-40-9P (6-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one); 458543-77-6P; 458543-78-7P; 499790-45-3P; 499790-46-4P; 500011-82-5P; 500011-83-6P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500011-87-0P; 500011-89-2P; 500011-90-5P; 500011-91-6P; 500011-92-7P; 500011-95-0P; 500011-96-1P; 500011-97-2P; 500011-98-3P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of anthranilamide compds. as pesticides for plant propagation material)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2001-323941
Priority Application Date: 20010921
Citations: Du Pont; WO 0170671 A 2001
Citations: Mitsubishi Chem Ind; EP 0289879 A 1988 An invertebrate pest control compn. for coating a propagule comprises (1) a biol. effective amt. of an anthranilamide compds. I (Markush included), an N-oxide thereof or an agriculturally suitable salt thereof, and (2) a film former or adhesive agent. Arthropodicidal compn. contg. anthranilamide compds. I may further comprise addnl. biol. active compds. selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonists, insecticidal ureas, and juvenile hormone mimics, and fungicides. The propagule is a seed of cotton, maize, soybean, rice, etc., or a rhizome, tuber, bulb or corm, or viable division thereof, of potato, sweet potato, garden onion, tulip, daffodil, crocus hyacinth, etc., or is a stem or leaf cutting. [on SciFinder (R)] A01N043-56. arthropodicide/ insecticide/ anthranilamide/ prepn/ propagule/ seed

129. Bergstrom, L. (1990). Leaching of Dichlorprop in Sand and Clay Soils Measured in Field Lysimeters. *Swed j agric res* 20: 115-120.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Leaching of the herbicide dichlorprop (2-(2,4-dichlorophenoxy)propionic acid) was studied in field lysimeters filled with either a sandy soil or a

clay soil. The herbicide was applied at a rate of 1.5 kg a.i./ha, representing a normal dose for spring cereals. Four out of eight lysimeters received supplementary watering in addition to natural rainfall. Dichlorprop concentrations above the detection limit (0.1 mug/l) were observed on one sampling occcasion in the clay lysimeters and on three occasions in the sand lysimeters, reaching 16 and 26 mug/l in percolate from the respective soils. In both soils, peak concentrations occurred after less than 3 mm of drainage had been collected. Converted to fluxes over the 7-month period, a maximum of 0.13% of the applied dichlorprop appeared in percolate. These results suggest that the peak concentrations (> 15 mug/l) of dichlorprop found in Swedish stream waters can only be explained by considering additional transport pathways
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: CEREALS
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: GRASSES
KEYWORDS: Ecology
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Agronomy-Grain Crops
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Pest Control
KEYWORDS: Gramineae
LANGUAGE: eng

130. Berkane, K. , Caissie, G. E., and Mallet, V. N. (The Use of Amberlite Xad-2 Resin for the Quantitative Recovery of Fenitrothion From Water--a Preservation Technique. *J. Chromatogr. 139(2): 386-390 1977 (8 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. The usefulness of Amberlite macroreticular resins for quantitative recovery of various organic contaminants from environmental water has been investigated. A multiresidue technique has been developed using these resins to extract organochlorine pesticides and polychlorinated biphenyls from natural waters. Water samples containing fenitrothion were allowed to percolate down a column of Amberlite XAD-2 resin, then the column was eluted with an appropriate organic solvent and the fenitrothion retained was determined by TLC analysis or GLC. The recovery of fenitrothion from distilled water averaged 94% according to in situ fluorometry; the results were confirmed by GLC in experiments with natural water. Fenitrothion degradation was not important within 10 days of the fluorometry experiment, and no degradation was apparent by GLC over a 5-week period. Thus the fenitrothion was stable on the column and the method can be used as a preservation technique. The water sample containing fenitrothion can be processed in the field, and the column can be eluted and its contents analyzed some time afterwards.

131. Berkane, K. , Caissie, G. E., and Mallet, V. N. (The Use of Xad-2 Amberlite Resin for the Quantitative Recovery of Fenitrothion From Water - a Preservation Technique. *In: proceedings of a symposium on fenitrothion: the long-term effects of its use in forest ecosystems. Roberts, j. R., Greenhalgh, r., And marshall, w. K., Eds. (Natl. Res. Council can.: Ottawa, canada) nrcc no. 16073: 95-103 1977 (8 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. The use of an Amberlite resin (XAD-2) for the recovery of fenitrothion from water is described. A glass column was filled with distilled water, and the resin in a water slurry was added with the stopcock open to obtain the desired column length. A 1-l water sample containing 50 mug/l of fenitrothion was allowed to percolate down the column. The column was then eluted with an organic solvent such as ethyl ether or ethyl acetate. The eluted sample can then be concentrated for TLC or fluorometric analysis, or made up to 50 ml in a flask for gas chromatogrphic analysis. The fenitrothion is stable in the resin column, so that this method can be used as a preservation technique. The environmental water sample containing fenitrothion can be processed in the field and the column can be eluted and its content analyzed some time afterwards. During this time fenitrothion remains unchanged in the column. Greater than 90% recoveries were obtained for the 50 ppb sample using this technique.

132. Bermudez-Saldana, Jose M. and Cronin, Mark T. D (2006). Quantitative structure-activity relationships for the toxicity of organophosphorus and carbamate pesticides to the rainbow trout Onchorhynchus mykiss. *Pest Management Science* 62: 819-831.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

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Database: CAPLUS
Accession Number: AN 2006:947591
Chemical Abstracts Number: CAN 145:264535
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (carbamate; quant. structure-activity relationships for toxicity of organophosphorus and carbamate pesticides to the rainbow trout Onchorhynchus mykiss); Pesticides (organophosphorus; quant. structure-activity relationships for toxicity of organophosphorus and carbamate pesticides to the rainbow trout Onchorhynchus mykiss); Oncorhynchus mykiss (quant. structure-activity relationships for toxicity of organophosphorus and carbamate pesticides to the rainbow trout Onchorhynchus mykiss); Structure-activity relationship (toxic; quant. structure-activity relationships for toxicity of organophosphorus and carbamate pesticides to the rainbow trout Onchorhynchus mykiss)
CAS Registry Numbers: 52-68-6; 55-38-9 (Fenthion); 56-38-2 (Parathion-ethyl); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorovos); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 114-26-1 (Propoxur); 122-14-5 (Fenitrothion); 137-26-8 (Thiram); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 301-12-2; 333-41-5 (Diazinon); 563-12-2 (Ethion); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 759-94-4 (EPTC); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 950-37-8; 1071-83-6 (Glyphosate); 1113-02-6 (Omethoate); 1134-23-2 (Cycloate); 1563-66-2 (Carbofuran); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chloropyrifos); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 5598-13-0 (Chlorpyrifos-methyl); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 13684-56-5 (Desmedipham); 14816-18-3 (Phoxim); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 17804-35-2 (Benomyl); 22224-92-6 (Fenamiphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphos-ethyl); 24017-47-8 (Triazophos); 24151-93-7 (Piperophos); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos);

34643-46-4 (Prothiofos); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 38260-54-7 (Etrimfos); 41198-08-7 (Profenofos); 42509-80-8 (Isazofos); 52888-80-9 (Prosulfocarb); 54593-83-8; 55285-14-8 (Carbosulfan); 59669-26-0 (Thiodicarb); 64249-01-0 (Anilofos); 65907-30-4 (Furathiocarb); 95465-99-9 (Cadusafos); 96182-53-5 (Tebupirimfos); 98886-44-3 (Fosthiazate)
Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (quant. structure-activity relationships for toxicity of organophosphorus and carbamate pesticides to the rainbow trout Onchorhynchus mykiss)
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Citations: 14) EC; Technical Guidance Document in support of Commission Directive 93/67/EEC on Risk Assessment for New Notified Substances, Commission Regulation (EC) No 1488/94 on Risk Assessment for Existing Substances and Directive 98/8/EC of the European Parliament and o, http://ecb.jrc.it/index.php?CONTENU=/Technical-Guidance-Document/sommaire.php 1996
Citations: 15) Cronin, M; Quant Struct-Act Relat 1995, 14, 1
Citations: 16) Konemann, H; Toxicology 1981, 19, 209
Citations: 17) Veith, G; Can J Fish Aquat Sci 1983, 40, 743
Citations: 18) Schultz, T; J Mol Struct-Theochem 2003, 622, 1
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Citations: 26) Syracuse Research Corporation (SRC); PhysProp Database, http://esc.syrres.com/intekow/PhysProp.htm 2005
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Citations: 35) Ren, S; Chemosphere 2003, 53, 1053
Citations: 36) Aptula, A; QSAR Comb Sci 2005, 24, 385
Citations: 37) Lipnick, R; Sci Total Environ 1991, 109-110, 131 This study has investigated the development of quant. structure-activity relationships (QSARs) for the toxicity to rainbow trout Onchorhyncus mykiss Walbaum of 75 organophosphorus and carbamate pesticides. The toxicity

data were obtained from an openly available toxicol. database and were selected to be representative of a single endpoint. A large no. of physicochem. and structural descriptors were calcd. for the pesticides. QSAR models were developed using multiple linear regression and partial least squares analyses. Following the removal of a small no. of outliers, predictive QSARs were developed on small nos. of mechanistically relevant descriptors. Applying mechanistic knowledge to the development of QSAR further improved predictivity. [on SciFinder (R)] 1526-498X toxicity/ organophosphorus/ carbamate/ pesticide/ rainbow/ trout/ Onchorhynchus

133. Bermudez-Saldana, Jose Maria, Escuder-Gilabert, Laura , Medina-Hernandez, Maria Jose, Villanueva-Camanas, Rosa Maria, and Sagrado, Salvador (2005). Chromatographic evaluation of the toxicity in fish of pesticides. *Journal of Chromatography, B: Analytical Technologies in the Biomedical and Life Sciences* 814: 115-125.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:1087092
Chemical Abstracts Number: CAN 142:171356
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Computer program (ECOSAR; chromatog. retention (log k) in biopartitioning micellar chromatog. (BMC) as an in vitro approach to evaluate the toxicity in fish of pesticides); Databases (ECOTOX; chromatog. retention (log k) in biopartitioning micellar chromatog. (BMC) as an in vitro approach to evaluate the toxicity in fish of pesticides); Toxicity (acute; chromatog. retention (log k) in biopartitioning micellar chromatog. (BMC) as an in vitro approach to evaluate the toxicity in fish of pesticides); Ecotoxicity; Fish; Micellar liquid chromatography; Partition; QSAR; Simulation and Modeling (chromatog. retention (log k) in biopartitioning micellar chromatog. (BMC) as an in vitro approach to evaluate the toxicity in fish of pesticides); Molecular structure-property relationship (retention; chromatog. retention (log k) in biopartitioning micellar chromatog. (BMC) as an in vitro approach to evaluate the toxicity in fish of pesticides)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-54-8 (DDD); 72-55-9 (DDE); 87-61-6 (1,2,3-Trichlorobenzene); 93-65-2 (MCPP); 93-72-1; 93-76-5 (2,4,5-T); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 95-50-1 (1,2-Dichlorobenzene); 99-30-9 (Dicloran); 101-10-0; 101-42-8 (Fenuron); 106-46-7 (1,4-Dichlorobenzene); 108-70-3 (1,3,5-Trichlorobenzene); 108-90-7 (Chlorobenzene); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 120-36-5; 120-82-1 (1,2,4-Trichlorobenzene); 121-75-5 (Malathion); 122-34-9 (Simazine); 122-88-3 (4-CPA); 150-68-5 (Monuron); 298-00-0 (Parathion-methyl); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 510-15-6 (Chlorbenzylate); 541-73-1 (1,3-Dichlorobenzene); 555-37-3 (Neburon); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 834-12-8 (Ametryne); 841-06-5 (Methoprotryn); 886-50-0; 940-31-8; 950-37-8 (Methidathion); 1014-69-3 (Desmetryn); 1114-71-2 (Pebulate); 1563-66-2 (Carbofuran); 1610-18-0 (Prometon); 1646-88-4 (Aldoxycarb); 1746-81-2 (Monolinuron); 1918-00-9; 1982-47-4 (Chloroxuron); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2310-17-0 (Phosalone); 2595-54-2 (Mecarbam); 2642-71-9 (Azinphos ethyl); 2921-88-2 (Chlorpyrifos); 3307-39-9; 3766-60-7 (Buturon); 4147-51-7 (Dipropetryn); 4658-28-0 (Aziprotryne); 5598-13-0 (Chlorpyrifos methyl); 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 10265-92-6 (Methamidophos); 13067-93-1 (Cyanofenphos); 13360-45-7 (Chlorbromuron); 15545-48-9 (Chlorotoluron); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18691-97-9 (Methabenzthiazuron); 19937-59-8 (Metoxuron); 21725-46-2 (Cyanazine); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25366-23-8 (Thiazafluron); 29232-93-7 (Pirimiphos methyl); 33213-65-9 (b-Endosulfan); 34123-59-6 (Isoproturon); 57018-04-9 (Tolclofos methyl); 82560-54-1 (Benfuracarb); 113158-40-0 (Fenoxaprop-P) Role: ADV (Adverse effect, including toxicity),

BIOL (Biological study)   (chromatog. retention (log k) in biopartitioning micellar chromatog. (BMC) as an in vitro approach to evaluate the toxicity in fish of pesticides)
Citations: 1) Gramatica, P; Chemosphere 2002, 47, 947
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Citations: 5) Konemann, H; Toxicology 1981, 19, 209
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Citations: 18) Universitat de Valencia; Patent in Process, Number P200002045
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Citations: 31) Schultz, T; Practical Applications of Quantitative Structure-Activity Relationships (QSAR) in Environmental Chemistry and Toxicology 1990
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Citations: 35) Schultz, T; Ecotox Environ Saf 1987, 14, 178
Citations: 36) Quezada, M; Aquat Toxicol 1990, 17, 239
Citations: 37) Commission Of The European Communities; Official Journal L 110 1993
Citations: 38) Dutta, H; Environ Res 2003, 91, 157 Ecotoxicity assessment is essential before placing new chem. substances on the market. An investigation of the use of the chromatog. retention (log k) in biopartitioning micellar chromatog. (BMC) as an in vitro approach to evaluate the toxicity in fish of pesticides (acute toxicity levels as pLC50) is proposed. A heterogeneous data set of 85 pesticides from six chem. families with available exptl. fish toxicity data (ECOTOX database from U.S. Environmental Protection Agency (EPA)) was used. For pesticides exhibiting non-polar narcosis mechanism in fish (non-specific toxicity), more reliable models and precise pLC50 estns. are obtained from log k (quant. retention-activity relationships, QRAR) than from log P (quant. structure-activity relationships, QSAR) or ECOSAR (ECOSAR program from U.S. EPA). [on SciFinder (R)] 1570-0232 fish/ pesticide/ toxicity/ QSAR/ QRAR/ chromatog

134. Bermudez-Saldana, Jose Maria, Escuder-Gilabert, Laura , Medina-Hernandez, Maria Jose, Villanueva-Camanas, Rosa Maria, and Sagrado, Salvador (2005). Modelling bioconcentration of pesticides in

fish using biopartitioning micellar chromatography. *Journal of Chromatography, A* 1063: 153-160.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Database: CAPLUS
Accession Number: AN 2005:4116
Chemical Abstracts Number: CAN 142:234892
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 4, 17
Document Type: Journal
Language: written in English.
Index Terms: Bioconcentration; Fish; Food contamination; Hydrophobicity; Micellar liquid chromatography; Pesticides; Risk assessment; Simulation and Modeling (modeling bioconcn. of pesticides in fish by using biopartitioning micellar chromatog.)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-54-8 (DDD); 87-61-6 (1,2,3-Trichlorobenzene); 93-65-2 (MCPP); 93-72-1; 93-76-5 (2,4,5-T); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 95-50-1 (1,2-Dichlorobenzene); 99-30-9 (Dicloran); 101-10-0; 101-42-8 (Fenuron); 106-46-7 (1,4-Dichlorobenzene); 108-70-3 (1,3,5-Trichlorobenzene); 108-90-7 (Chlorobenzene); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 120-36-5; 120-82-1 (1,2,4-Trichlorobenzene); 121-75-5 (Malathion); 122-34-9 (Simazine); 122-88-3 (4-CPA); 150-68-5 (Monuron); 298-00-0 (Parathionmethyl); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 510-15-6 (Chlorbenzylate); 541-73-1 (1,3-Dichlorobenzene); 555-37-3 (Neburon); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 834-12-8 (Ametryne); 841-06-5 (Methoprotryn); 886-50-0; 940-31-8; 950-37-8 (Methidathion); 1014-69-3 (Desmetryn); 1114-71-2 (Pebulate); 1563-66-2 (Carbofuran); 1610-18-0 (Prometon); 1646-88-4 (Aldoxycarb); 1746-81-2 (Monolinuron); 1918-00-9; 1982-47-4 (Chloroxuron); 2157-98-4; 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2310-17-0 (Phosalone); 2595-54-2 (Mecarbam); 2642-71-9 (Azinphosethyl); 2921-88-2 (Chlorpyrifos); 3307-39-9; 3547-04-4; 3766-60-7 (Buturon); 4147-51-7 (Dipropetryn); 4658-28-0 (Aziprotryne); 5598-13-0 (Chlorpyrifosmethyl); 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 7287-19-6 (Prometryn); 10265-92-6 (Methamidophos); 13067-93-1 (Cyanofenphos); 13360-45-7 (Chlorbromuron); 15545-48-9 (Chlorotoluron); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18691-97-9 (Methabenzthiazuron); 19937-59-8 (Metoxuron); 21725-46-2 (Cyanazine); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25366-23-8 (Thiazafluron); 29232-93-7 (Pirimiphosmethyl); 33213-65-9 (b-Endosulfan); 34123-59-6 (Isoproturon); 57018-04-9 (Tolclofosmethyl); 82560-54-1 (Benfuracarb); 113158-40-0 (Fenoxaprop-P) Role: BSU (Biological study, unclassified), PEP (Physical, engineering or chemical process), PRP (Properties), PYP (Physical process), BIOL (Biological study), PROC (Process) (modeling bioconcn. of pesticides in fish by using biopartitioning micellar chromatog.)
Citations: 1) Anon; Fundamentals of Aquatic Toxicology, second ed 1995
Citations: 2) Meylan, W; Environ Toxicol Chem 1999, 18, 664
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Citations: 17) Dimitrov, S; QSAR Comb Sci 2003, 22, 58
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Citations: 23) Khaledi, M; Anal Chem 1989, 61, 1040
Citations: 24) Taillardat-Bertschinger, A; J Med Chem 2003, 46, 655
Citations: 25) Quinones Torrelo, C; Mini Rev Med Chem 2002, 2, 145
Citations: 26) Escuder Gilabert, L; J Chromatogr B 2003, 797, 21
Citations: 27) Anon; Patent in Process, Number P200002045 Registered to the Universitat de Valencia
Citations: 28) Lambert, W; J Chromatogr A 1993, 656, 469
Citations: 29) Paschke, A; Chemosphere 2001, 45, 721
Citations: 30) Escuder Gilabert, L; Anal Chem 1998, 70, 28
Citations: 31) Anon; Identification of Potential PBTs and vPvBs by Use of QSARs 2002 An investigation of the use of the chromatog. retention (log k) in biopartitioning micellar chromatog. (BMC) as an in vitro approach to evaluate the bioconcn. factor (BCF) of pesticides in fish is proposed. A heterogeneous set of 85 pesticides from six chem. families was used. For pesticides exhibiting bioconcn. in fish (exptl. log BCF > 2), a quant. retention-activity relationships (QRAR) model is able to perform precise log BCF estns. of new pesticides. Considering the present data, the results based on log k seem to be more reliable than those from available software (BCFWIN and KOWWIN) and from log P (quant. structure-activity relationships (QSAR)). It is also possible to perform risk assessment tasks fixing a threshold value for log k, which substitute two common threshold values, log P and exptl. log BCF, avoiding the exptl. problems related with these two parameters. [on SciFinder (R)] 0021-9673 pesticide/ bioconcn/ model/ fish/ micellar/ chromatog

135. Bernhofer, L. P., Barkovic, S., Appa, Y., and Martin, K. M. (1999). Il-1alpha and Il-1ra Secretion From Epidermal Equivalents and the Prediction of the Irritation Potential of Mild Soap and Surfactant-Based Consumer Products. *Toxicology in vitro* 13: 231-239.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. We have previously evaluated the measurement of viability and cytokine release from skin equivalents, for predicting the skin irritation potential of topically applied surfactants and demonstrated that IL-1alpha and interleukin-1 receptor antagonist (IL-1ra) release from epidermal skin equivalents correlates with skin irritation potential. In this study, the utility of the model was confirmed by the evaluation of cleansing bars and cleansing lotions that exhibited varying degrees of irritation p uman irritation data, demonstrating that the model can correctly predict the irritation potentialof soap and surfactant products. These results show that this in vitro model is useful for rank ordering the irritation potential of mild consumer products and for demonstrating enhanced mildness in products with minor differences.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: ENDOCRINE GLANDS
MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: SKIN

MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: IMMUNITY
MESH HEADINGS: HYPERSENSITIVITY
MESH HEADINGS: HOMINIDAE
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Studies
KEYWORDS: Endocrine System-General
KEYWORDS: Integumentary System-General
KEYWORDS: Toxicology-General
KEYWORDS: Immunology and Immunochemistry-General
KEYWORDS: Allergy
KEYWORDS: Hominidae
LANGUAGE: eng

136. Beroza, Morton and Bowman, Malcolm C (1970). Chromatographic determination of trace amounts of pesticide residues. 331-51.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1971:2963
Chemical Abstracts Number: CAN 74:2963
Section Code: 19
Section Title: Pesticides
Document Type: Conference
Coden: 17RFAY
Language: written in English.
Index Terms: Pesticides (detn. of, chromatographic)
CAS Registry Numbers: 55-38-9; 56-38-2; 56-72-4; 86-50-0; 121-75-5; 126-75-0; 141-66-2; 297-97-2; 298-00-0; 298-02-2; 299-86-5; 333-41-5; 563-12-2; 732-11-6; 786-19-6; 953-17-3; 961-11-5; 2104-64-5; 2496-91-5; 2496-92-6; 2497-06-5; 2497-07-6; 2588-03-6; 2588-04-7; 2588-05-8; 2588-06-9; 2600-69-3; 2667-49-4; 2921-88-2; 3761-41-9; 3761-42-0; 6552-12-1; 6552-13-2; 14086-35-2; 18181-70-9 Role: ANT (Analyte), ANST (Analytical study) (detn. of, chromatographic); 333-43-7P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of)
The popularity of gas chromatog. for pesticide residue anal. stems from the use of the highly specific detectors (electron capture, thermionic), which lessen or eliminate the need for time-consuming cleanup of samples before anal., yet respond to subnanogram amts. of the residues. The flame-photometric detector for P and S compds. is such a device; it has proved effective in the anal. of about 100 pesticides and their metabolites in a great variety of substrates. With residues of certain pesticides producing as many as 5 metabolites, the compds. have been detd. individually; they have also been oxidized to a single compd., thus speeding anal. of the total residue. A dual flame-photometric detector was devised to det. simultaneously P and S compds. as well as the at. ratio of these elements in a mol. A fiber-optic scanner for detg. pesticide residues quant. by thin-layer chromatog. is also described. [on SciFinder (R)] phosphorus/ sulfur/ pesticides/ chromatog;/ chromatog/ phosphorus/ sulfur/ pesticides;/ sulfur/ phosphorus/ pesticides/ chromatog

137. Beroza, Morton and Bowman, Malcolm C (1966). Correlation of pesticide polarities with efficiencies of milk extraction procedures. *Journal - Association of Official Analytical Chemists* 49: 1007-12.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1966:511215
Chemical Abstracts Number: CAN 65:111215

Section Code: 70
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (extn. of, from milk, polarity and); Milk (insecticide extn. from, polarity and)
CAS Registry Numbers: 309-00-2; 961-11-5 (Derived from data in the 7th Collective Formula Index (1962-1966); 56-38-2P (Phosphorothioic acid, O,O-diethyl O-p-nitrophenyl ester); 76-44-8P (4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-); 80-00-2P (Sulfone, p-chlorophenyl phenyl); 124-96-9P (1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-); 298-00-0P (Phosphorothioic acid, O,O-dimethyl O-p-nitrophenyl ester); 500-28-7P (Phosphorothioic acid, O-(3-chloro-4-nitrophenyl) O,O-dimethyl ester); 563-12-2P (Ethyl methylene phosphorodithioate, [(EtO)2P(S)-S]2CH2); 732-11-6P (Phosphorodithioic acid, O,O-dimethyl ester S-ester with N-(mercaptomethyl)phthalimide); 1024-57-3P (4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro-); 5943-04-4P (Sulfone, chloromethyl p-chlorophenyl) Role: PREP (Preparation) (extn. of, from milk); 608-73-1 (Cyclohexane, 1,2,3,4,5,6-hexachloro-) (fertilizer contg., from milk); 37913-85-2P (Phosphoric acid, 2-chloro-1-(2,3,4-trichlorophenyl)vinyl di-Me ester) Role: PREP (Preparation) (hydrolysis product of, extn. from milk) Nonpolar pesticides added to milk are adsorbed onto the cream phase and do not penetrate appreciably into the fat globule of the milk. This adsorption results in low recoveries of nonpolar pesticides in extns. with hexane-ether (1:1) carried out immediately after spiking and 5 hrs. later. Recoveries from raw and pasteurized homogenized milk by an extn. procedure that gives low fat recovery parallel the polarities of the pesticides. Recoveries by an extn. procedure that gives high fat recovery were satisfactory. With the most polar of the pesticides, recoveries by the extn. procedure giving low fat recovery consistently exceeded those by the procedure giving high fat recovery. Although the data indicate that added pesticides are adsorbed on the fat globule, the nonpolar pesticides may also be bound in the aq. phase of the milk after removal of the cream. [on SciFinder (R)] 0004-5756

138. Bertling, S., Wallinder, I. O., Kleja, D. B., and Leygraf, C. (Long-Term Corrosion-Induced Copper Runoff From Natural and Artificial Patina and Its Environmental Impact. *Environ toxicol chem. 2006, mar; 25(3):891-8. [Environmental toxicology and chemistry / setac]: Environ Toxicol Chem.*
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

ABSTRACT: The overall objective of this paper is to present an extensive set of data for corrosion-induced copper dispersion and its environmental interaction with solid surfaces in the near vicinity of buildings. Copper dispersion is discussed in terms of total copper flows, copper speciation and bioavailability at the immediate release situation, and its changes during transport from source to recipient. Presented results are based on extensive field exposures (eight years) at an urban site, laboratory investigations of the runoff process, published field data, generated predictive site-specific runoff rate models, and reactivity investigations toward various natural and manmade surfaces, such as those in soil, limestone, and concrete. Emphasis is placed on the interaction of copper-containing runoff water with different soil systems through long-term laboratory column investigations. The fate of copper is discussed in terms of copper retention, copper chemical speciation, breakthrough capacities, and future mobilization based on changes in copper concentrations in the percolate water, computer modeling using the Windermere Humic Aqueous Model, and sequential extractions. The results illustrate that, for scenarios where copper comes in extensive contact with solid surfaces, such as soil and limestone, a large fraction of released copper is retained already in the immediate vicinity of the building. In all, both the total copper concentration in runoff water and its bioavailable part undergo a significant and rapid reduction.
MESH HEADINGS: Copper/*analysis
MESH HEADINGS: Corrosion
MESH HEADINGS: Environment
MESH HEADINGS: Environmental Monitoring/*methods
MESH HEADINGS: Environmental Pollution

MESH HEADINGS: Risk Assessment
MESH HEADINGS: Soil Pollutants/analysis
MESH HEADINGS: Toxicity Tests
MESH HEADINGS: Water
MESH HEADINGS: Water Movements
MESH HEADINGS: Water Pollutants, Chemical
LANGUAGE: eng

139. Bertling Sofia, Wallinder Inger Odnevall, Leygraf Christofer, and Kleja, D. a. n. Berggren (2006). Occurrence and Fate of Corrosion-Induced Zinc in Runoff Water From External Structures. *Science of the Total Environment [Sci. Total Environ.]. Vol. 367, no. 2-3, pp. 908-923. Aug 2006.* Chem Codes: Chemical of Concern: PSM Rejection Code: EFFLUENT, FATE.

ISSN: 0048-9697
Descriptors: Article Subject Terms: Algae
Descriptors: Algal Growth
Descriptors: Assessments
Descriptors: Bioavailability
Descriptors: Chemical speciation
Descriptors: Chlorophyta
Descriptors: Corrosion
Descriptors: Environmental factors
Descriptors: Exposure
Descriptors: Plants
Descriptors: Pollution dispersion
Descriptors: Pollution effects
Descriptors: Retention Capacity
Descriptors: Runoff
Descriptors: Runoff Rates
Descriptors: Structure
Descriptors: Water
Descriptors: Zinc
Descriptors: Article Taxonomic Terms: Raphidocelis subcapitata
Descriptors: Article Geographic Terms: Sweden
Descriptors: Sweden, Stockholm
Abstract: This paper comprises data from an extensive cross-disciplinary research project aiming to elucidate the environmental fate of corrosion-induced zinc release from external structures. It includes an exposure assessment that provide long-term runoff rates, concentrations and chemical speciation of zinc, from 14 zinc-based materials exposed during 5 years in Stockholm, Sweden, and an effect assessment including bioavailability and ecotoxicity measurements, both at the immediate release situation and after soil interaction. Runoff rates of total zinc ranged from 0.07 to 2.5 g Zn m super(- 2) yr super(- 1) with zinc primarily released as the free ion for all materials investigated. The average effect concentration, causing a 50% growth reduction after 72 h to the green algae Raphidocelis subcapitata, was at the immediate release situation 69 mu g Zn L super(- 1). Upon interaction of runoff water with soil, which simulated 18 to 34 years of exposure, the total zinc concentration was significantly reduced, from milligram per litre to microgram per litre levels. Simultaneously, the most bioavailable fraction of zinc in runoff, the hydrated zinc(II)-ion, decreased from more than 95% to about 30%. The major fraction, 98-99%, of the introduced total zinc concentration in the runoff water was retained within the soil. As long as the soil retention capacity was not reached, this resulted in zinc concentrations in the percolate water transported through the soil layer, close to background values and below growth inhibition concentrations for the green algae investigated. Zinc retained in soil was to a large extent (85-99.9%) extractable with EDTA, and available for plant uptake after 5 to 7 months of ageing.
Publisher: Elsevier Science B.V., P.O. Box 211 Amsterdam 1000 AE Netherlands, [mailto:nlinfo-f@elsevier.nl], [URL:http://www.elsevier.nl/]
DOI: 10.1016/j.scitotenv.2006.01.008

Language: English
English
Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: P 9000 ENVIRONMENTAL ACTION
Classification: Q5 01503 Characteristics, behavior and fate
Classification: SW 3030 Effects of pollution
Classification: AQ 00008 Effects of Pollution
Classification: M2 556 General (556)
Subfile: Meteorological & Geoastrophysical Abstracts; Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Aqualine Abstracts; Water Resources Abstracts

140. Berube, K. A., Roessler, J., Jones, T. P., and Janes, S. (1994). The Determination of Volume of Dunaliella Cells by Transmission Electron Microscopy and Image Analysis. *Annals of Botany* 73: 481-491.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

A method has been developed to measure the cell volume of the unicellular, green alga Dunaliella bioculata 19/4 during salt stress conditions, where shape change in the alga becomes problematic and the cells can no longer be recognised as 'prolate ellipsoids', by using image analysis of transmission electron micrographs. The image analysis of the micrographs employs a specialised numerical integration programme or 'variable frames analysis' for unicellular microorganisms which possess a single axis of symmetry. Basic mathematics was used to determine: (a) the functional dependence of the calculated volume on the angle of the cut to the axis of symmetry and the distance of the origin of the cut from the centre of mass; (b) errors resulting from the orientation of the longest axis off-vertical for image analysis; (c) the uppermost range of calculated volumes obtained which represent the 'true' volumes within required confidence levels. The procedure was applied to a series of experiments on the effects of salt stress on Dunaliella bioculata cells. Dunaliella, image analysis, TEM, volume, variable frames, numerical integration, salt stress http://www.sciencedirect.com/science/article/B6W9X-45P0WWK-2P/2/45f9134bac34069532c571b86549617a

141. Beyer, W. N. (1990). Evaluating Soil Contamination. *U s fish wildl serv biol rep* 90: I-viii, 1-25.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM EARTHWORMS SEWAGE SLUDGE SEDIMENTS WILDLIFE FOOD CHAINS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: ECOLOGY
MESH HEADINGS: MARINE BIOLOGY
MESH HEADINGS: ANIMALS, WILD
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ANNELIDA/PHYSIOLOGY

MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: OLIGOCHAETA
MESH HEADINGS: VERTEBRATES
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Invertebrata
KEYWORDS: Oligochaeta
KEYWORDS: Vertebrata-Unspecified
LANGUAGE: eng

142. Bhatti, J. S., Fleming, R. L., Foster, N. W., Meng, F. R., Bourque, C. P. A., and Arp, P. A. (2000). Simulations of Pre- and Post-Harvest Soil Temperature, Soil Moisture, and Snowpack for Jack Pine: Comparison With Field Observations. *Forest Ecology and Management, 138 (1-3) pp. 413-426, 2000*.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ISSN: 0378-1127
Descriptors: Whole-tree harvesting
Descriptors: Forest floor removal
Descriptors: Herbiciding
Descriptors: Modeling
Descriptors: Site preparation
Abstract: Quantifying temporal changes in soil temperature and moisture conditions is an important part of characterizing pre- and post-disturbance conditions that influence the health, productivity, and sustainability of forest ecosystems. In this paper, we present an experimental case study that was used to evaluate the ability of the forest hydrology model ForHyM2 to simulate field-observed changes in root-zone soil moisture and temperature, as well as snowpack depth, throughfall volume and forest floor percolate volume, for a jack pine (Pinus banksiana Lamb.) site in northeastern Ontario. The experiment refers to two post-harvest treatment factors, each involving two treatments: (a) blading (removing) or non-blading the forest floor and part of the mineral topsoil, (b) herbiciding or non-herbiciding. It was found that harvesting increased the average daily soil temperature by 4-6(degrees)C on all treatment plots during summer (5 cm soil depth). Blading increased the soil temperature further by 1-2(degrees)C. Herbiciding did not have significant effects on soil temperature. Eliminating competing forest vegetation significantly increased soil moisture level on the non-bladed treatment plots. The model simulations were based on daily precipitation (snow and rain), air temperature, and a few site descriptors such as longitude and latitude, soil depth, soil texture, and leaf area index. The resulting simulations compared well (graphically) with the pre- and post-harvest field observations regarding soil moisture, soil temperature, and snowpack water equivalents. Good graphical agreements suggest that the approach taken with this case study can be applied to the evaluation of soil moisture and temperature conditions to a variety of pre- and post-disturbance forest conditions, The results from the study would be useful for addressing below ground processes such as root growth, soil respiration, rate of organic matter decomposition, rate of soil weathering, nutrient cycling, etc., all of which strongly influence site productivity. (copyright) 2000 Elsevier Science B.V.
50 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article

Country of Publication: Netherlands
Classification: 92.13.1.6 ENVIRONMENTAL BIOLOGY: Ecology: Interactions with environment
Classification: 92.10.3 CROP SCIENCE: Tree Growth and Forest Management
Classification: 92.16.3 TECHNIQUES: Modelling
Subfile: Plant Science

143. Bidleman, T. F. and Frei, R. W (1973). Preparation and infrared spectra of palladium derivatives of some organophosphorus insecticides. *Talanta* 20: 103-13.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1973:120064
Chemical Abstracts Number: CAN 78:120064
Section Code: 5-1
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
Index Terms(2): Palladium Role: PRP (Properties) (ir spectra of); Phosphorodithioic acid Phosphorodithioic acid Phosphorodithioic acid Phosphorodithioic acid Phosphorodithioic acid Phosphorothioic acid Role: PRP (Properties), SPN (Synthetic preparation), PREP (Preparation) (prepn. and ir spectrum of)
CAS Registry Numbers: 253-83-8DP (1,2,3-Benzotriazine); 253-83-8DP (1,2,3-Benzotriazine); 2597-03-7DP (Benzeneacetic acid, a-[(dimethoxyphosphinothioyl)thio]-, ethyl ester) Role: PRP (Properties), SPN (Synthetic preparation), PREP (Preparation) (prepn. and ir spectrum of); 7647-10-1; 13820-53-6 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with phosphorus-contg. insecticides); 55-38-9; 86-50-0; 298-02-2; 732-11-6; 786-19-6; 2597-03-7; 2642-71-9 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with sodium tetrachloropalladate) The Pd complexes of Guthion [86-50-0], ethyl Guthion [2642-71-9], Imidan [732-11-6], Cidial [2597-03-7], and fenthion [55-38-9] were prepd. by the reaction of the insecticide with Na tetrachloropalladate(II) [13820-53-6] or palladium(II) chloride [7647-10-1] in aq. EtOH. The Pd to pesticide ratios were .sim.1:1, with the exception of fenthion, where the ratio was 2:1. The ir spectra of the complexes were compared with those of the parent insecticides. Pd complexation resulted in a lowering of the P:S frequencies by 60-75 cm-1, and produced changes in the POC region. Mg amts. of Thimet [298-02-2], Trithion [786-19-6], and Cidial on thin-layer chromatograms were reacted in situ with Na tetrachloropalladate(II). The ir spectra of the compds. recovered from the plate depended greatly on the Pd to pesticide ratio on the spot. [on SciFinder (R)] 0039-9140 insecticide/ palladium/ complex/ IR;/ chromatog/ insecticide/ IR

144. Bidleman, T. F., Nowlan, B., and Frei, R. W (1972). Metallofluorescent indicators as spray reagents for the in situ determination of organophosphorus pesticides on thin-layer chromatograms. *Analytica Chimica Acta* 60: 13-23.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1972:484271
Chemical Abstracts Number: CAN 77:84271
Section Code: 5-1
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (phosphorus-contg., metallofluorescent indicators in chromatographic detn. of)
CAS Registry Numbers: 55-38-9; 56-38-2; 86-50-0; 115-93-5; 121-75-5; 122-14-5; 126-75-0;

298-02-2; 298-04-4; 299-84-3; 563-12-2; 732-11-6; 786-19-6; 953-17-3; 2921-88-2 Role: PROC (Process) (chromatography of); 7732-18-5 Role: AMX (Analytical matrix), ANST (Analytical study) (cygon detn. in); 60-51-5 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in lake water) Fluorescence-quenched solns. of palladium(II)-calcein and palladium(II)-calcein blue are sensitive spray reagents for the detection and in situ detn. of organothiophosphorus insecticides on thin-layer chromatograms. The palladium is displaced from its nonfluorescent indicator complex by the pesticide producing fluorescent spots on the plate. Visual detection limits for 16 insecticides were given. As little as 10-50 ng phosphorodithioate pesticide and 50-100 ng phosphorothioate pesticide were detected within 1 hr after spraying and drying the plate. Quant. measurements were conveniently made 18-24 hr after spraying and drying the plate. The method was applied to the anal. of lake water spiked with Cygon [60-51-5]. [on SciFinder (R)] 0003-2670 metallofluorescent/ indicator/ pesticide/ detn;/ palladium/ calcein/ pesticide/ detn;/ organophosphorus/ pesticide/ detn/ chromatog

145. Bielders, C. L. and Baveye, P. (1995). Vertical particle segregation in structural crusts: experimental observations and the role of shear strain. *Geoderma* 67: 247-261.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

There is ample evidence that coarse-textured soils can be highly sensitive to crust formation under rainfall. One of the most controversial aspects of crust formation on such soils is the frequent occurrence of a thin clay band buried below a washed-out layer. In order to better understand the mechanisms that may lead to this vertical sorting in structural crusts, mixtures of 92.5% sand and 7.5% clay were exposed to simulated rainfall for 1 h at 63 mm h-1. The sand fraction of the samples consisted of a binary mixture of contrasting particle-size classes between 106 and 1000 [mu]m, mixed in varying proportions. Micromorphological changes in surface structure were observed on thin sections made from undisturbed samples. Before rainfall, the clay was present as coatings around the sand grains. In all samples subjected to rainfall, a washed-out layer 2 to 2.5 mm thick formed at the soil surface. Except for the samples containing 50% or more 106-150 [mu]m sand, the lower boundary of the washed-out layer was marked by an accumulation of clay material, generally in the form of a band. This clay material was present as microaggregates that were probably derived from the initial grain coatings. Within the washed-out layer a vertical sorting of the sand grains was sometimes observed, which resulted in a relative concentration of the coarsest particles at the surface. The sorting was more pronounced as the ratio between the diameter of the large and small sand grains increased, and as the relative percentage of finer sand decreased. By analogy with a physical model derived for particle segregation in granular media, it is proposed that the vertical sorting of particles according to their size was caused by the shear strain created in the first few millimeters of the samples by drop impact. The strain is believed to have induced temporary changes in pore size which allowed the preferential downward movement of finer grains that would otherwise riot percolate freely. The present observations suggest that strain-induced segregation may be one of the main mechanisms leading to clay band formation in structural crusts formed on coarse-textured soils. The implications of the model are discussed in terms of the range of conditions under which segregation is expected to occur. The experimental results also point to the distinctive role of the particle-size distribution of the sand fraction on the morphology of structural crusts. http://www.sciencedirect.com/science/article/B6V67-4002HT6-B/2/105e3a4b9fb247664924697997df3365

146. Biernath-Wuepping, S. and Liphard, K. (Untersuchung Von Mineraloelkontaminationen Im Boden. Ableitung Der Konzentrationen Im Bodenwasser Nach Einem Perkolationsverfahren. (Investigation of Soils Contaminated With Mineral Oil. Estimation of Concentrations in Soil Water by a Percolation Method). *Govt reports announcements & index (gra&i), issue 21, 1998*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: In connection with the national soil protection law (Bundesbodenschutzgesetz), it is planned for risk assessment to estimate concentrations of contaminants in soil water according to the preliminary standard DIN V 19736. In this standard, a

method is described for percolation of soil samples. In this DGMK project, the current draft was applied to soil samples which are contaminated with mineral oil. Another aim of the project was to find a correlation between the soil concentrations and the percolate concentrations. The most important results of this project are: Soil contaminations with gasoline will be easily percolated than contaminations with Diesel fuel or lubricants. No correlation between the concentrations of mineral oil in soil and in percolate could be found. The procedure described in the preliminary standard is not useful for a sophisticated assessment of mineral oil contaminations in soils.
German.
KEYWORDS: Land pollution
KEYWORDS: Soils
KEYWORDS: Mineral oils

147. Biondo, E., Miotto, S. T. S., and Schifino-Wittmann, M. T. (2006). Cytogenetics of Species of Chamaecrista (Leguminosae - Caesalpinioideae) Native to Southern Brazil. *Botanical Journal of the Linnean Society, 150 (4) pp. 429-439, 2006.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0024-4074
Descriptors: Cytotaxonomy
Descriptors: Evolution
Descriptors: Karyotypes
Descriptors: Pollen grains
Abstract: Chromosome numbers, karyotypes, meiotic behaviour and pollen analysis are presented for species of Chamaecrista Moench (Leguminosae, Caesalpinioideae, Cassieae) native to southern Brazil: C. nictitans ssp. patellaria, C. nictitans ssp. disadena, C. repens, C. rotundifolia, C. flexuosa, C. vestita and C. desvauxii. Meiotic behaviour is reported for the first time for all the taxa and was very regular; only bivalents were formed at diakinesis and metaphase I, chromosome disjunction and segregation were regular at anaphases I and II, meiotic indexes were over 99% and pollen fertility was over 92%. Pollen grains were subprolate in C. flexuosa and C. vestita and prolate-spheroidal in the other taxa. Karyotypes were symmetrical in all six species and the data are original, except for C. nictitans ssp. patellaria. Chromosome number is presented for the first time for C. repens (2n = 16) and has been confirmed for the other taxa: 2n = 14 for C. desvauxii, 2n = 32 for the tetraploid C. nictitans ssp. patellaria and C. nictitans ssp. disadena, and 2n = 16 for the other species. These two basic numbers found in the genus, x = 7 and x = 8, point to chromosome evolution by dysploidy, which has also been accompanied by polyploidy. (copyright) 2006 The Linnean Society of London.
42 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.12.1.1 GENETICS AND BREEDING: Genetics: Cytogenetics
Subfile: Plant Science

148. Bishop, C. A., Boermans, H. J., Ng, P., Campbell, G. D., and Struger, J. (1998). Health of Tree Swallows (Tachycineta bicolor) Nesting in Pesticide-Sprayed Apple Orchards in Ontario, Canada. I. Immunological Parameters. *J.Toxicol.Environ.Health Part A* 55: 531-559 .
Chem Codes: Chemical of Concern: CTZ,PSM Rejection Code: MIXTURE .

149. Bishop, Christine A., Collins, Brian, Mineau, Pierre, Burgess, Neil M., Read, William F., and Risley, Chris (2000). Reproduction of cavity-nesting birds in pesticide-sprayed apple orchards in southern Ontario, Canada, 1988-1994. *Environmental Toxicology and Chemistry* 19: 588-599.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Database: CAPLUS
Accession Number: AN 2000:138487
Chemical Abstracts Number: CAN 132:261555
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Chlorides Role: ADV (Adverse effect, including toxicity), BOC (Biological occurrence), BSU (Biological study, unclassified), BIOL (Biological study), OCCU (Occurrence) (org.; reprodn. of cavity-nesting birds in pesticide-sprayed apple orchards in southern Ontario, Canada); Egg; Fertility; Orchards; Sialia sialis; Species differences; Tachycineta bicolor (reprodn. of cavity-nesting birds in pesticide-sprayed apple orchards in southern Ontario, Canada); Hydrocarbon oils Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (reprodn. of cavity-nesting birds in pesticide-sprayed apple orchards in southern Ontario, Canada); Toxicity (reproductive; reprodn. of cavity-nesting birds in pesticide-sprayed apple orchards in southern Ontario, Canada); Pesticides; Reproductive tract (toxicity; reprodn. of cavity-nesting birds in pesticide-sprayed apple orchards in southern Ontario, Canada)
CAS Registry Numbers: 57-92-1 (Streptomycin); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 86-50-0 (Azinphosmethyl); 86-87-3 (Naphthalene acetic acid); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 117-80-6 (Dichlone); 133-06-2 (Captan); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1596-84-5 (Daminozide); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Oxythioquinox); 2439-10-3 (Dodine); 7439-95-4 (Magnesium); 7440-70-2 (Calcium); 7487-88-9 (Epsom salt); 7704-34-9 (Sulfur); 7758-98-7 (Copper sulfate); 8018-01-7 (Mancozeb); 8064-42-4 (Dikar); 9006-42-2 (Metiram); 12427-38-2 (Maneb); 13121-70-5 (Cyhexatin); 16752-77-5 (Methomyl); 17804-35-2 (Benlate); 23103-98-2 (Pirimicarb); 23422-53-9 (Formetanate hydrochloride); 31093-43-3 (Naphthalene acetamide); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52918-63-5 (Deltamethrin); 74115-24-5 (Clofentezine); 88671-89-0 (Myclobutanil) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (reprodn. of cavity-nesting birds in pesticide-sprayed apple orchards in southern Ontario, Canada); 72-55-9 Role: ADV (Adverse effect, including toxicity), BOC (Biological occurrence), BSU (Biological study, unclassified), BIOL (Biological study), OCCU (Occurrence) (reprodn. of cavity-nesting birds in pesticide-sprayed apple orchards in southern Ontario, Canada)
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Citations: 41) Hawley, R; Effects of the exposures of birds to insecticides used for grasshopper control in Alberta Report AECV88-R6 1988
Citations: 42) Leighton, F; Can Vet J 1987, 28, 108
Citations: 43) Stromberg, K; Chemistry in Ecology 1984, 2, 39 Egg fertility, clutch size and egg and chick survival and pesticide exposure of tree swallows (Tachycineta bicolor) and eastern bluebirds (Sialia sialis) were measured annually using nest boxes in sprayed and nonsprayed apple orchards in southern Ontario, Canada, during 1988-1994. Assocns. were examd. between reproductive rates and historical organochlorine residues in eggs as well as the degree of exposure and toxicity of pesticides applied during the study period. Because many pesticides in current use are not persistent in wildlife tissues, a toxicity score was developed to describe the exposure for each nest. The toxicity score was calcd. as the product of the extent of the orchard sprayed and the application rate of the chems., divided by an acute reproductive toxicity index of each chem. Total organochlorine concns. in tree swallow eggs were 0.74 to 3.47 mg/g, and in eastern bluebird eggs, these values ranged from 0.47 to 106.3 mg/g. More than 90% of the residue in eggs was pp'DDE. There was a significant increase in unhatched eggs in bluebirds as organochlorine levels increased in eggs. There were significant assocns. between toxicity scores of current-use pesticides and at least one avian reproductive parameter in every year of the study, but the redn. in productive rates assocd. with pesticides did not exceed 14%, for either species, in any year. Reduced reprodn. occurred in 6 yr in tree swallows but for bluebirds, this occurred in only 4 yr. [on SciFinder (R)] 0730-7268 pesticide/ reproductive/ toxicity/ bird/ apple/ orchard

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<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:10993
Chemical Abstracts Number: CAN 130:192930
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Hydrocarbon oils Role: ADV (Adverse effect, including toxicity), BIOL (Biological

study) (Superior Oil; health of tree swallows (Tachycineta bicolor) nesting in pesticide-sprayed apple orchards in Ontario, Canada in relation to sex and thyroid hormone concns. and testes development); Blood plasma; Egg; Pesticides; Sex; Tachycineta bicolor; Testis (health of tree swallows (Tachycineta bicolor) nesting in pesticide-sprayed apple orchards in Ontario, Canada in relation to sex and thyroid hormone concns. and testes development); Pesticides (toxicity; health of tree swallows (Tachycineta bicolor) nesting in pesticide-sprayed apple orchards in Ontario, Canada in relation to sex and thyroid hormone concns. and testes development)
CAS Registry Numbers: 63-25-2 (Sevin); 86-50-0 (Guthion); 86-87-3 (Naphthaleneacetic acid); 123-33-1 (Sorbatran); 732-11-6 (Imidan); 7440-42-8 (Boron); 7440-66-6 (Zinc); 7440-70-2 (Calcium); 7727-37-9 (Nitrogen); 8018-01-7 (Dithane dg); 9006-42-2 (Polyram); 38641-94-0 (Roundup); 52315-07-8 (Ripcord); 52918-63-5 (Decis); 74115-24-5 (Apollo); 88671-89-0 (Nova); 219713-54-9 (Accel) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (health of tree swallows (Tachycineta bicolor) nesting in pesticide-sprayed apple orchards in Ontario, Canada in relation to sex and thyroid hormone concns. and testes development); 72-55-9; 92-52-4D (Biphenyl); 7439-92-1 (Lead); 7440-38-2 (Arsenic) Role: BOC (Biological occurrence), BSU (Biological study, unclassified), BIOL (Biological study), OCCU (Occurrence) (health of tree swallows (Tachycineta bicolor) nesting in pesticide-sprayed apple orchards in Ontario, Canada in relation to sex and thyroid hormone concns. and testes development); 50-28-2 (17b-Estradiol); 58-22-0 (Testosterone); 6893-02-3 (Triiodothyronine) Role: BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (health of tree swallows (Tachycineta bicolor) nesting in pesticide-sprayed apple orchards in Ontario, Canada in relation to sex and thyroid hormone concns. and testes development)
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Citations: Temple, S; Gen Comp Endocrinol 1974, 22, 470
Citations: van der Kraak, G; Gen Comp Endocrinol 1984, 55, 35
Citations: van der Kraak, G; Gen Comp Endocrinol 1990, 79, 233
Citations: Yadav, A; Ecotoxicol Environ Safety 1987, 12, 97 To investigate the effects of pesticides on wild birds, sex (17b-estradiol; testosterone) and thyroid (triiodothyronine, T3) hormone concns., body mass, and testes mass were measured and the development of testes was evaluated in wild tree swallows (Tachycineta bicolor) nesting in four sprayed apple orchards and three nonsprayed sites in southern Ontario, Canada, in 1995-1996. In orchards, birds were exposed to as many as 11 individual spray events and five sprays of mixts. of chems. Residues of organochlorine pesticides, PCBs, lead, and arsenic concns. were low and not variable among sites except p,p'-DDE concns., which ranged from 0.36 to 2.23 mg/g wet wt. in eggs. These persistent compds. were not correlated with any endocrine response measured in tree swallows. In 16-d-old male tree swallow chicks, body mass and concns. of 17b-estradiol (estradiol), testosterone, and T3 in plasma showed no significant differences between sprayed and nonsprayed groups and among sites within those groups. However, T3 concns. were slightly elevated in the sprayed group compared to the nonsprayed group, and there was a significant and pos. correlation between T3 and the no. of mixts. of sprays applied during egg incubation through chick rearing. In 16-d-old female chicks, there were no significant differences among spray treatments or sites and no correlations with spray exposure for testosterone, estradiol, or T3 in plasma. Body mass was correlated pos. with T3 and neg. with estradiol but showed no differences among spray exposure groups or sites. Histol. of testes of 16-d-old male chicks indicated there were no significant differences among sprayed and nonsprayed birds in testes mass, area, or diam., or the presence of Leydig cells in the interstitium, the distribution of the Sertoli cells, or the occurrence of heterophils in the testicular interstitium. For the percentage of spermatogonia present on the basement membrane, there were significant differences among sites, but these differences were not specifically assocd. with spray exposure. However, there was a marginally significant trend between increasing occurrence of a disrupted Sertoli cell population on the seminiferous tubular basement membranes as the no. of mixts. of pesticides sprayed during chick rearing increased. In adult male and female parent tree swallows, there were no differences in hormone concns. between birds from sprayed and nonsprayed sites. Nor were there any significant correlations between the concn. of any hormone and collection date, body mass, or any type of spray exposure for adults. The correlations between increasing pesticide exposure and abnormal thyroid hormone and testes development in male chicks indicate that further redns. of pesticide use in orchards may benefit the health of birds that nest there. However, it is unclear which of these pesticides or spray mixts. are responsible for these effects, and this needs to be examd. in future studies. [on SciFinder (R)] Tachycineta/ pesticide/ sex/ thyroid/ hormone/ testis;/ swallow/ pesticide/ sex/ thyroid/ hormone/ testis

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2003:897338
Chemical Abstracts Number: CAN 139:395051
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Chemical ionization mass spectrometry (atm.-pressure; organochlorine and organophosphorus pesticides in honey detd. by solid-phase extn. and LC-APCI-MS or LC-MS); Mass spectrometry (gas chromatog. combined with; organochlorine and organophosphorus pesticides in honey detd. by solid-phase extn. and LC-APCI-MS or LC-MS); Mass spectrometry (liq. chromatog. combined with; organochlorine and organophosphorus pesticides in honey detd. by solid-phase extn. and LC-APCI-MS or LC-MS); Gas chromatography; Liquid chromatography (mass spectrometry combined with; organochlorine and organophosphorus pesticides in honey detd. by solid-phase extn. and LC-APCI-MS or LC-MS); Food analysis; Food contamination; Honey (organochlorine and organophosphorus pesticides in honey detd. by solid-phase extn. and LC-APCI-MS or LC-MS); Pesticides (organochlorine; organochlorine and organophosphorus pesticides in honey detd. by solid-phase extn. and GC-MS); Pesticides (organophosphorus; organochlorine and organophosphorus pesticides in honey detd. by solid-phase extn. and LC-APCI-MS); Extraction (solid-phase; organochlorine and organophosphorus pesticides in honey detd. by solid-phase extn. and LC-APCI-MS or LC-MS)
CAS Registry Numbers: 50-29-3; 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 56-72-4 (Coumaphos); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-54-8; 72-55-9; 118-74-1 (HCB); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion methyl); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 333-41-5 (Diazinon); 732-11-6 (Fosmet); 789-02-6; 944-22-9 (Fonofos); 950-37-8 (Methidation); 1563-66-2 (Carbofuran); 2032-65-7 (Methiocarb); 2104-96-3 (Bromophos); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2597-03-7 (Phenthoate); 2642-71-9 (Azinphos ethyl); 2921-88-2 (Chlorpyrifos ethyl); 3383-96-8 (Temephos); 5598-13-0; 6923-22-4 (Monocrotophos); 13171-21-6 (Phosphamidone); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14816-18-3; 23103-98-2 (Pirimicarb); 23505-41-1 (Pirimiphos ethyl); 23560-59-0 (Heptenophos); 41198-08-7 (Profenofos); 72490-01-8 (Fenoxycarb) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (organochlorine and organophosphorus pesticides in honey detd. by solid-phase extn. and LC-APCI-MS or LC-MS)
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Citations: 10) Anon; Draft revised for honey at step 6 of the Codex Procedure 1998, CX 5/10.2, CL 1998/12-S
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Citations: 20) Torres, C; J Chromatogr A 1996, 754, 301
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Citations: 25) Fleche, C; Rev Sci Technol Off Int Epiz 1997, 16, 609
Citations: 26) Al-Rifai, J; J Apicult Res 1997, 36, 155
Citations: 27) Anju, R; Pestic Res J 1997, 9, 226
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Citations: 29) Garcia, M; Bull Environ Contam Toxicol 1995, 54, 825
Citations: 30) Instituto Nacional de Estadistica; http://www.ine.es/ 2001 Fifty samples of honey collected from local markets of Portugal and Spain during year 2002 were analyzed for 42 organochlorine, carbamate, and organophosphorus pesticide residues. An anal. procedure based on solid-phase extn. with octadecyl sorbent followed by gas chromatog.-mass spectrometry (GC-MS), for organochlorines, and by liq. chromatog.-atm. pressure chem. ionization-mass spectrometry (LC-APCI-MS), for organophosphorus and carbamates, was developed. Recoveries of spiked samples ranged from 73 to 98%, except for dimethoate (40%), with relative std. deviations from 3 to 16% in terms of repeatability, and from 6 to 19% in terms of reproducibility. Limits of quantification were from 0.003 to 0.1 mg kg-1. Most of the pesticides found in honey were organochlorines. Among them, g-HCH was the most frequently detected in 50% of the samples, followed by HCB in 32% of the samples and the other isomers of HCH (a-HCH and b-HCH) in 28 and 26% of the samples, resp. Residues of DDT and their metabolites were detected in 20% of the samples. Of the studied carbamates, both methiocarb and carbofuran were detected in 10% of the samples, pirimicarb in 4% and carbaryl in 2%. The only organophosphorus pesticides found were heptenophos in 16%, methidathion in 4%, and parathion Me in 2% of honey samples. Results indicate that Portuguese honeys were more contaminated than Spanish ones. However, honey consumers of both countries should not be concerned about the amts. of pesticide residues found in honeys available on the market. [on SciFinder (R)] 0021-8561 pesticide/ organochlorine/ organophosphorus/ honey/ food/ analysis;/ organochlorine/ organophosphorus/ pesticide/ LCMS/ LC/ APCI/ MS/ extn

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<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A copper contaminated (Cu content: 294 mg kg-1) soil material sampled from an area formerly cultivated with hops (Humulus lupulus), was extracted within sixteen days in a column test facility (soil packing percolumn: 4.1 kg dry weight) by the percolation of an amino acid containing blood meal hydrolysate. The objectives of the study were to record the time course of copper elution, to determine the resulting degree of copper removal and to examine the specific extractability of the various copper binding forms. Until the maximum Co concentration in the column effluent was reached, the time course of the Cu release went parallel to the throughput of the amino acids. As a consequence, the velocity of the copper mobilization and transport seems to be ruled by the hydrodynamic flux of the percolate mainly. In total 62% of the soil bound copper were removed by the hydrolysate. Above-average amounts were extracted from the binding forms 2-4 defined according to Zeien and Brum
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION

MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: PLANTS
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Cannabidaceae
LANGUAGE: ger

153. Blewett, T. C. and Krieger, R. I (1990). Field leaf-test kit for rapid determination of dislodgeable foliar residues of organophosphate and N-methyl carbamate insecticides. *Bulletin of Environmental Contamination and Toxicology* 45: 120-4.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1990:493238
Chemical Abstracts Number: CAN 113:93238
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 4, 9, 17, 80
Document Type: Journal
Language: written in English.
Index Terms: Almond; Grape; Pear; Plant analysis (insecticide residue detn. in, by field leaf-test kit using acetylcholinesterase inhibition test); Insecticides (organophosphate and Me carbamate, detn. of dislodgeable residues of, by field leaf-test kit using acetylcholinesterase inhibition test); Cucurbita (pumpkin, insecticide residue detn. in, by field leaf-test kit using acetylcholinesterase inhibition test)
CAS Registry Numbers: 86-50-0; 732-11-6; 2310-17-0 (Phosalone); 2921-88-2; 16752-77-5 Role: BIOL (Biological study) (detn. of dislodgeable residues of, by field leaf-test kit using acetylcholinesterase inhibition test) Dislodgeable phosalone, chlorpyrifos, methomyl, azinphos-Me, and phosmet residue levels were detd. on grape, pear, almond and pumpkin foliage, by gas chromatog. and cholinesterase inhibition activity (leaf-test kit). The 2 methods were in good agreement; the leaf-test kit method has the advantage of being rapid, not requiring org. solvents. Detection levels <0.1 mg/cm2 may be possible. [on SciFinder (R)] 0007-4861 pesticide/ dislodgeable/ residue/ leaf/ detn;/ insecticide/ residue/ leaf/ detn;/ acetylcholinesterase/ inhibition/ detn/ pesticide/ residue

154. Bleyl, D. W. (1980). Embryotoxicity and Teratogenicity of Phosmet in Mice. *Arch.Exp.Veterinarmed* 34: 791-795 (GER) (ENG ABS).
Chem Codes : Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

155. Bonanno, G. , Fassio, A., Sala, R., Schmid, G., and Raiteri, M. (Gaba(B) Receptors as Potential Targets for Drugs Able to Prevent Excessive Excitatory Amino Acid Transmission in the Spinal Cord. *Eur j pharmacol. 1998, dec 4; 362(2-3):143-8. [European journal of pharmacology]: Eur J Pharmacol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ABSTRACT: The effects of GABA(B) receptor activation on the Ca2+-dependent depolarization-induced overflow of endogenous glutamic acid and gamma-aminobutyric acid (GABA) was studied in rat spinal cord nerve terminals exposed in superfusion to 15 mM KCl. The GABA(B) receptor agonist (-)-baclofen inhibited the K+-evoked overflow of glutamate (EC50=0.098 microM) but was almost inactive against that of GABA. The overflow of both transmitters could

be quite similarly inhibited by two other GABA(B) receptor agonists, 3-APPA (3-aminopropylphosphonous acid; EC50=0.087 and 0.050 microM in the case of GABA and glutamate, respectively) and CGP 44532 (3-amino-2(S)-hydroxypropyl)methylphosphinic acid; EC50=0.81 and 0.50 microM). The GABA(B) receptor antagonist CGP 35348 [3-amino-propyl(diethoxymethyl)phosphinic acid] blocked the effect of 3-APPA (1 microM) at the autoreceptors (IC50 approximately = 1 microM), but not at the heteroreceptors. In contrast, the effects of 3-APPA at both autoreceptors and heteroreceptors could be similarly prevented by another GABA(B) receptor antagonist, CGP 52432 [3-[[(3,4-dichlorophenyl)methyl]amino]propyl](diethoxymethyl) phosphinic acid (IC50 approximately = 10 microM). The data suggest that, in the spinal cord, GABA(B) autoreceptors on GABA-releasing terminals differ pharmacologically from GABA(B) heteroreceptors on glutamatergic terminals. Selective GABA(B) receptor ligands may be helpful for conditions characterized by excessive glutamatergic transmission in the spinal cord.
MESH HEADINGS: Animals
MESH HEADINGS: Autoreceptors/drug effects
MESH HEADINGS: Baclofen/*pharmacology
MESH HEADINGS: Drug Interactions
MESH HEADINGS: GABA Agonists/*pharmacology
MESH HEADINGS: GABA Antagonists/*pharmacology
MESH HEADINGS: Glutamic Acid/*metabolism
MESH HEADINGS: Male
MESH HEADINGS: Organophosphorus Compounds/*pharmacology
MESH HEADINGS: Presynaptic Terminals/drug effects/metabolism
MESH HEADINGS: Rats
MESH HEADINGS: Rats, Wistar
MESH HEADINGS: Receptors, GABA-B/*drug effects
MESH HEADINGS: Spinal Cord/*drug effects/metabolism
MESH HEADINGS: Synaptosomes/drug effects/metabolism
MESH HEADINGS: gamma-Aminobutyric Acid/*metabolism
LANGUAGE: eng

156. Bongaerts, G. P. and Severijnen, R. S. (Preventive and Curative Effects of Probiotics in Atopic Patients. *Med hypotheses. 2005; 64(6):1089-92. [Medical hypotheses]: Med Hypotheses.*
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

ABSTRACT: Normally, the transport of allergens through the intestinal epithelia to the blood is limited. It is hypothesised that if these compounds arrive in the blood circulation, they must percolate through the epithelial cell layer. Thus, food allergy (and thus atopic eczema) implies an increased intercellular leakage of the gut wall. Such increased intercellular leakage is thought to be caused by a slightly changed cellular morphology due to a slight cytopathologic effect because of both a limited decay of the cytoskeleton and a slightly reduced turgor. These events may be due to a reduced production of intracellular metabolic energy in the epithelial cells due to an increased concentration of familiar, frequently occurring, potentially toxic bacterial metabolites, i.e., d-lactic acid and/or ethanol. In this hypothesis we suggest that adequate probiotics can (i) prevent the increased characteristic intestinal permeability of children with atopic eczema and food allergy, (ii) can thus prevent the uptake of allergens, and (iii) finally can prevent the expression of the atopic constitution. The use of adequate probiotic lactobacilli, i.e., homolactic and/or facultatively heterolactic l-lactic acid-producing lactobacilli, reduces the intestinal amounts of the bacterial, toxic metabolites, d-lactic acid and ethanol by fermentative production of merely the non-toxic l-lactic acid from glucose. Thus, it is thought that beneficial probiotic micro-organisms promote gut barrier function and both undo and prevent unfavourable intestinal micro-ecological alterations in allergic individuals.
MESH HEADINGS: Adult
MESH HEADINGS: Allergens/metabolism
MESH HEADINGS: Female
MESH HEADINGS: Food Hypersensitivity/immunology/metabolism/therapy

MESH HEADINGS: Humans
MESH HEADINGS: Hypersensitivity, Immediate/prevention &amp
MESH HEADINGS: control/*therapy
MESH HEADINGS: Infant
MESH HEADINGS: Infant, Newborn/*immunology
MESH HEADINGS: Intestinal Absorption
MESH HEADINGS: Intestinal Mucosa/metabolism/microbiology
MESH HEADINGS: *Lactobacillus/metabolism
MESH HEADINGS: Male
MESH HEADINGS: *Models, Biological
MESH HEADINGS: Pregnancy
MESH HEADINGS: Prenatal Exposure Delayed Effects
MESH HEADINGS: Probiotics/*therapeutic use
MESH HEADINGS: Prospective Studies
LANGUAGE: eng

157. Borsuk, O. P. (Development of Resistance in the Colorado Beetle to Some Insecticides. *Khim. Sel'sk. Khoz. 1: 56-58* 1976..
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. Development of resistance in the Colorado beetle to pesticides of different chemical types (DDT, strobane, trichlorfon) was studied in 2 regions of the Ukraine. For this purpose, the imago of the beetle was collected and individuals were exposed to acetone solutions of the pesticides. The number of insect deaths was counted for 24, 48 and 72 hr after placement of the insecticide solutions on their bodies. The mean values of LD50, the confidence range, and the regression coefficient were established. The observations indicated reduced sensitivity of the pest to organochlorine compounds. There was a 46-fold rise in insect resistance to DDT from 1963 to 1974, a 9-fold rise for polychloropinene, (strobane) and no changes were seen regarding sevin (carbaryl) and chlorophos (trichlorfon) in the Transcarpathian Region (I), while in the Kiev area (II) sensitivity to insecticides varied insignificantly. Comparing insect resistance to widely used and new insecticides, it was found that sensitivity in (I) as against (II) was 30 fold lower for DDT, 15 fold for polychloropinene, 8 fold for dilor, and 3.5x for kelthane (dicofol). The results pointed to the acquisition of resistance in (I). Beetle populations in both areas were equally sensitive to organic phosphorus compounds (chlorophos, phthalophos, phosalone, cyanox).
LANGUAGE: rus

158. Bouchard, M. (1983). Influences stationnelles sur l'alteration chimique des sols derives de till (Sherbrooke, Que., Canada). *CATENA* 10: 363-382.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Summary In a small watershed of the canadian Appalachians, five trenches were studied in two catenas facing each other, one forested, the other under recent prairie vegetation (100 years of age), to investigate the character of chemical weathering in these sites. On the top of the forested catena there was a humo-ferric fragic podzol, and further down, and orthic gleysol. The other catena had a humo-ferric fragic podzol, then, downwards, a grey gleyified luvisol and a luvic fragic gleysol. Percolating waters near these trenches were sampled regularly, at various depth. The distribution of the ions on the meadow side indicated on one hand that H_4SiO_4, Na^+ and Mg^{2+} in percolating waters are related to the total volume of soil through wich waters percolate, that the dissolution of aluminium is accelerated in acid sites (upslope) and that the solubility of iron reaches a maximum in the zone influenced by the water table. On the other hand, calcium, which is easily liberated in the high sections, is in part fixed when the solutions get concentrated, iron and aluminium are soon traped, silicium is less mobile than the basic cations. The constituants of primary minerals organize as follows: concentration of Al_2O_3 and Fe_2O_3 upslope, when the contrary is for the basic oxydes and SiO_2; this trend stands out more clearly in the top 30 cm. Thus on top of the forested catena, chemical weathering is intense, the aluminium and iron oxydes

are highly evacuated in this podzol. At the same altitude, in the prairie podzol, which probaly had 100 years ago a less acidifying vegetation (hardwoods) than in the first case, feldspars and micas are degraded and we find mostly transformed minerals (montmorillonite -- Al). Minerals are very much less degraded downslope because of their confined position and the high ionic content of the percolating waters.Resume Dans un petit bassin-versant des Appalaches canadiennes, cinq fosses pedologiques ont ete etudiees dans deux catenas de part et d'autre de l'exutoire, l'une sous foret, l'autre sous prairie recente (la deforestation datant de 100 ans), afin de caracteriser l'alteration dans divers sites le long de la pente. La premiere catena comportait, de haut en bas du versant, un podzol humo-ferrique fragique, un luvisol gris gleyifie, un gleysol luvique fragique; la deuxieme, sous foret, un podzol humo-ferrique fragique, un gleysol orthique. Les eaux de percolation de ces profils ont ete prelevees regulierement, a diverses profondeurs ainsi que l'eau de l'exutoire. La distribution des ions dans la catena sous prairie a indique que d'une part les teneurs en H4SiO4, Na+ et Mg2+ sont liees au volume traverse, que l'aluminium est plus fortement mis en solution dans les sites acides (hauts de versants), que les teneurs en fer sont maximales dans les niveaux influences par le battement de la nappe phreatique. D'autre part, le calcium, fortement libere sur les hauteurs, se fixe en partie lorsque les solutions se concentrent, le fer et l'aluminium sont pieges tres tot alors que le silicium est moins mobile que les cations basiques. Les constitutants des mineraux primaires dans les sols s'organisent donc ainsi: concentration de Al2O3 et Fe2O3 vers le haut de versant, alors que c'est le contraire pour les oxydes basiques et SiO2, ce qui est plus evident dans les 30 cm de surface. Aussi, en haut de versant de coniferes l'alteration est intense, les sesquioxydes sont fortement evacues dans ce podzol, tandis qu'a la meme hauteur dans le podzol de prairie, qui portait il y a 100 ans sans doute une vegetation moins acidifiante (feuillus) que dans le premier, la degradation (des mineraux phylliteux et des feldspaths) et les transformations (en montmorillonite -- Al) predominent. La degradation des mineraux est faible dans les bas de versants par suite du confinement et de l'elevation des teneurs des percolats.
http://www.sciencedirect.com/science/article/B6VCG-4G9KCF0-12/2/0124fbfc3f7003d2f3d30f8e6a697d3f

159. Boumaiza, M., Ktari, M. H., and Vitiello, P. ([Toxicity of Several Pesticides Used in Tunisia, for Aphanius Fasciatus Nardo, 1827 (Pisces, Cyprinodontidae.)]. *Arch inst pasteur tunis. 1979, sep; 56(3):307-42. [Archives de l'institut pasteur de tunis]: Arch Inst Pasteur Tunis*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: The acute toxicity of some pesticides used in Tunisia is determined for the species Aphanius fasciatus (Pisces - Cyprinodontidae). Bioassays conducted at temperature (19-20 degrees C) and salinity (37-38%) have allowed to calculate the CL50 48 h and 96 h. The classification of these pesticides, based on the CL50 96 h, and according to their toxicity for the test species, shows that the organic phosphorus (Murphotox, Bazudin, Dursban, Zithiol, Lebaycid, Imidan, Oleoparathion, Folimat; Nuvan, Actellic, Carbicron, Nexion, Dimecron, Roxion) have all the degrees of toxicity, but the majority are among the most toxic; the carbamates (Betanal, Dimetilan, Baygon), are generally less toxic than the organic phosphorus tested, except Nexion which is less toxic than the Betanal and Roxion less toxic than the three carbamates tested; the herbicides (2,4-D, Basagran, Printan) have a very low toxicity, and are less toxic than the insecticides tested, except Betanal and Suffix of which the toxicity is higher than some insecticides (Nexion, Dimecron, Baygon, Dimetilan, Roxion); Calixin (Fongicide) is more toxic than the herbicides tested but it is generally less toxic than the insecticides used. At higher temperature (28-29 degrees C) A. fasciatus is more sensible to organic phosphorus (Dursban, Folimat) than to carbamate (Betanal). The variation change of salinity (from 37 to 6.5 %) don't modify the sensibility of the test species face to face of three pesticides: Dursban, Folimat (organic phosphorus insecticide) and Betanal (carbamate herbicide). A. fasciatus is suitable for acute and chronic bioassays.
MESH HEADINGS: Animals
MESH HEADINGS: Carbamates
MESH HEADINGS: Fishes/*physiology
MESH HEADINGS: Insecticides/toxicity
MESH HEADINGS: Lethal Dose 50

MESH HEADINGS: Organophosphorus Compounds
MESH HEADINGS: Pesticides/*toxicity
MESH HEADINGS: Salts
MESH HEADINGS: Temperature
LANGUAGE: fre
TRANSLIT/VERNAC TITLE: Toxicité de divers pesticides utilisés en Tunisie pour Aphanius fasciatus Nardo, 1827 (Pisces, Cyprinodontidae)

160. Bourgeois, D., Gaudet, J., Deveau, P., and Mallet, V. N. (1993). Microextraction of Organophosphorus Pesticides From Environmental Water and Analysis by Gas Chromatography. *Bull environ contam toxicol* 50: 433-440.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM WATER POLLUTION CONTROL TOXICITY PESTICIDE SOLVENT WASTE MANAGEMENT ANALYTICAL METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

161. Bowman, B. T. and Sans, W. W (1983). Determination of octanol-water partitioning coefficients (KOW) of 61 organophosphorus and carbamate insecticides and their relationship to respective water solubility (S) values. *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes* B18: 667-83.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1984:116312
Chemical Abstracts Number: CAN 100:116312
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Partition (of insecticides between octanol and water, detn. of, water soly. in relation to); Solubility (of insecticides, octanol-water partition coeff. detn. in relation to); Insecticides (partition coeff. of, detn. of, in octanol-water systems, water soly. in relation to)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 60-51-5; 62-73-7; 63-25-2; 86-50-0; 114-26-1; 115-90-2; 116-06-3; 121-75-5; 122-14-5; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 311-45-5; 327-98-0; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 786-19-6; 944-21-8; 944-22-9; 950-37-8; 953-17-3; 961-22-8; 962-58-3; 1563-66-2; 2032-59-9; 2104-96-3; 2310-17-0; 2463-84-5; 2497-06-5;

2497-07-6; 2588-03-6; 2588-04-7; 2642-71-9; 2921-88-2; 3070-15-3; 3383-96-8; 3735-01-1; 4824-78-6; 5598-13-0; 6164-98-3; 10548-10-4; 13071-79-9; 14255-72-2; 14816-18-3; 16752-77-5; 18181-70-9; 21609-90-5; 22224-92-6; 23505-41-1; 24017-47-8; 25006-32-0; 25311-71-1; 29232-93-7; 39923-25-6; 56070-16-7 Role: PRP (Properties) (partition coeff. of, detn. of, in octanol-water system, water soly. in relation to); 7732-18-5 Role: PRP (Properties) (systems, octanol-, insecticide partition coeff. in, detn. of, water soly. in relation to); 111-87-5 Role: PRP (Properties) (systems, water-, insecticides partitioning coeffs. in, detn. of, water soly. in relation to) Octanol-water partitioning coeffs. (KOW) were detd. for 61 organophosphorus and carbamate insecticides and related compds. at 20 Deg. In some instances, variations in reported KOW values (including present data) were as great as 180-fold. Despite considerable care in detg. KOW values, there remained a no. of compds. whose KOW-soly. data points fell some distance off the log KOW/log S regression line, examples being fenamiphos [22224-92-6] and azinphos-methyl [86-50-0]. Such deviations may be ascribed to several factors including incorrect ests. of the Heats of Fusion values used in the m.p. corrections, and the apparent erratic behavior of the activity coeffs. in water-satd. octanol with respect to the activity coeffs. in octanol-satd. water. Water soly. and octanol-water partitioning coeffs. for the studied insecticides and related compds. are given. [on SciFinder (R)] 0360-1234 insecticide/ water/ octanol/ partitioning

162. Bowman, B. T. and Sans, W. W (1983). Further water solubility determinations of insecticidal compounds. *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes* B18: 221-7 .
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1983:174664
Chemical Abstracts Number: CAN 98:174664
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 61
Document Type: Journal
Language: written in English.
Index Terms: Solubility (of insecticides, in water); Insecticides (soly. of, in water)
CAS Registry Numbers: 52-68-6; 55-38-9; 60-51-5; 63-25-2; 86-50-0; 114-26-1; 121-75-5; 327-98-0; 333-41-5; 470-90-6; 732-11-6; 786-19-6; 950-37-8; 953-17-3; 959-98-8; 1031-07-8; 2032-59-9; 2310-17-0; 2463-84-5; 2642-71-9; 2921-88-2; 3070-15-3; 3383-96-8; 5598-13-0; 6164-98-3; 7786-34-7; 10265-92-6; 14255-72-2; 14816-18-3; 16752-77-5; 21609-90-5; 22224-92-6; 23135-22-0; 23505-41-1; 24017-47-8; 25311-71-1; 29232-93-7; 30560-19-1; 33213-65-9; 39923-25-6 Role: PRP (Properties) (soly. of, in water) The aq. soly. of 39 insecticidal and related compds. was detd. at 20+-1.5 Deg, using previously described shaking and centrifugation method. fenamiphos [22224-92-6], fenthion [55-38-9], And methidathion [950-37-8] produced values substantially less than those reported in the literature, whereas aminocarb [2032-59-9], diazinon [333-41-5], dicapthon [2463-84-5], pirimiphosethyl [23505-41-1], and pirimiphos-methyl [29232-93-7] gave solubilities substantially greater than reported literature values. [on SciFinder (R)] 0360-1234 insecticide/ soly/ water

163. Bowman, Malcolm C. and Beroza, Morton (1965). Analysis of Imidan colorimetrically and by electron-affinity gas chromatography. *Journal of the Association of Official Agricultural Chemists* 48: 922-6.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1966:22431
Chemical Abstracts Number: CAN 64:22431
Section Code: 70

Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Corn (Imidan residue detn. in); Milk (analysis, detn. of Imidan residues)
CAS Registry Numbers: 732-11-6 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with N-(mercaptomethyl)phthalimide); 18250-63-0 (Phosphoric acid, dimethyl ester, ester with cis-3-hydroxy-N,N-dimethylcrotonamide) (detn. of) The colorimetric procedure for Imidan (O,O-dimethyl S-phthalimidomethyl phosphorodithioate, I) is based on the acid hydrolytic cleavage of H2CO from the mol. and detn. of liberated H2CO with chromotropic acid by the Eegriwe reaction (CA 31, 84422). Recoveries of the pesticide from milk were 75-88% in the 0.5-5.0 ppm. range. For the gas-chromatography method, a model 700 Jarrell-Ash chromatograph equipped with a 10-mv. Bristol recorder, disk integrator, and an electron-affinity detector contg. 100 mc. T as TiT2 was used. Samples were injected directly into a 50-cm., 4-mm. glass column contg. 3.13 g. (5% by wt.) of the EtOAc-sol. fraction of Dow Corning high-vacuum silicone grease on acid-washed, 80-100 mesh Chromosorb W. Other parameters were: column temp. 190 Deg, injection port 190 Deg, detector 200 Deg; carrier gas, N; and flow at outlet 200 ml./min. Recoveries of Imidan from milk at levels of 0.01-5 ppm. were 93-110% and from whole sweet corn plants 94-106% at 0.05-10.0 levels. [on SciFinder (R)] 0095-9111

164. Bowman, Malcolm C. and Beroza, Morton (1966). Determination of Imidan and Imidoxon in sweet corn by gas chromatography with flame photometric detection. *Journal - Association of Official Analytical Chemists* 49: 1154-7.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1967:45522
Chemical Abstracts Number: CAN 66:45522
Section Code: 17
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Corn (Imidan and Imidoxon detn. in)
CAS Registry Numbers: 732-11-6; 3735-33-9 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in corn) A rapid quant. procedure is given for Imidan (O,O-di-Me S-phthalimidomethyl phosphorodithioate) and Imidoxon (O,O-di-Me S-phthalimidomethyl phosphorothioate), with min. detection levels of 0.002 and 0.004 ppm., resp. The compds., first sepd. on a silica-gel column, are individually gas chromatographed on a glass column contg. 10% DC-200 on 80-90 mesh Gas Chrom Q at 200 Deg. An important requirement is the conditioning of the column by repeated injections of insecticides to const. response. The flame photometric detector with a 526 mm interference filter (P detector) was not contaminated by unpurified exts. [on SciFinder (R)] 0004-5756 IMIDAN/ RESIDUES/ CORN/ DETN;/ INSECTICIDES/ CORN/ DETN;/ CHROMATOG/ GAS/ INSECTICIDES;/ PHOSPHOROTHIOATES/ DETN

165. Bowman, Malcolm C. and Beroza, Morton (1967). Extraction of a polar insecticide (Imidan) from milk. *Journal - Association of Official Analytical Chemists* 50: 940-1.
Chem Codes : Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1967:489829
Chemical Abstracts Number: CAN 67:89829
Section Code: 17
Section Title: Foods
Document Type: Journal
Language: written in English.

Index Terms: Milk (Imidan detn. in goat)
CAS Registry Numbers: 732-11-6 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in milk) The high and low fat extn. procedures of B. and B. (ibid 49, 1007 (1966) for detg. insecticides in milk were applied to the detn. of the polar insecticide 0,0-di-Me S-phthalimidomethyl phosphorodithioate (Imidan) (I) as a contaminant in goats milk. The app. and gas chromatographic conditions are the same as those of B. and B. (CA 66: 45522a) for the analysis of I, except that a 394-mm filter is used with the flame photometric detector to detect the S rather than P in the mol. The limit of detection is 0.05 ppm. A 2.38-g. dose of I was given to a 34-kg. goat, and a milk sample was collected after 8 hrs.; I recoveries averaged 95 and 75% with the low and high fat extn. procedures, resp. The amts. of fat extd. by each procedure were 1.16 and 6.26 wt. %, resp. The amts. of I extd. by the 2 procedures were 0.36 and 0.25 ppm., resp. [on SciFinder (R)] 0004-5756 IMIDAN/ DETN/ MILK;/ MILK/ IMIDAN/ DETN;/ RESIDUES/ IMIDAN/ MILK;/ INSECTICIDES/ RESIDUES/ MILK

166. Bowman, Malcolm C. and Beroza, Morton (1965). Extraction p-values of pesticides and related compounds in six binary solvent systems. *Journal of the Association of Official Agricultural Chemists* 48: 943-52.
Chem Codes : Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1966:22643
Chemical Abstracts Number: CAN 64:22643
Section Code: 72
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (chromatog. of, extn. p-values in)
Index Terms(2): Glycols (detection of)
CAS Registry Numbers: 80-38-6; 93-76-5; 103-17-3; 141-66-2; 298-01-1; 309-00-2; 326-12-5; 1031-07-8; 2312-67-6; 3279-46-7; 6081-54-5; 7378-05-4; 7421-93-4 (Derived from data in the 7th Collective Formula Index (1962-1966); 50-53-3 (Phenothiazine, 2-chloro-10-[3-(dimethylamino)propyl]-); 97-17-6 (Phosphorothioic acid, O-2,4-dichlorophenyl O,O-diethyl ester); 299-84-3 (Phosphorothioic acid, O,O-dimethyl O-2,4,5-trichlorophenyl ester); 7786-34-7 (Crotonic acid, 3-hydroxy-, methyl ester di-Me phosphate) (chromatog. of); 95-06-7P (Carbamic acid, diethyldithio-, 2-chloroallyl ester); 96-12-8P (Propane, 1,2-dibromo-3-chloro-); 101-21-3P (Carbanilic acid, m-chloro-, isopropyl ester); 101-27-9P (Carbanilic acid, m-chloro-, 4-chloro-2-butynyl ester); 106-93-4P (Ethane, 1,2-dibromo-); 298-02-2P (Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester); 300-76-5P (Phosphoric acid, 1,2-dibromo-2,2-dichloroethyl di-Me ester); 961-11-5P (Phosphoric acid, 2-chloro-1-(2,4,5-trichlorophenyl)vinyl dimethyl ester); 1194-65-6P (Benzonitrile, 2,6-dichloro-); 1582-09-8P (p-Toluidine, a,a,a-trifluoro-2,6-dinitro-N,N-dipropyl-); 6012-97-1P (Penphene) Role: PREP (Preparation) (chromatog. of, extn. p-values in); 297-97-2 (Ethyl pyrazinyl phosphorothioate, (EtO)2(C4H3N2O)PS) (chromatog. of, partition p-values in); 50-29-3 (Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)-); 51-03-6 (Toluene, a-[2-(2-butoxyethoxy)ethoxy]-4,5-(methylenedioxy)-2-propyl-); 51-14-9 (Acetaldehyde, 2-(2-ethoxyethoxy)ethyl 3,4-(methylenedioxy) phenyl acetal); 56-38-2 (Phosphorothioic acid, O,O-diethyl O-p-nitrophenyl ester); 56-72-4 (Coumarin, 3-chloro-7-hydroxy-4-methyl-, O-ester with O,O-di-Et phosphorothioate); 57-74-9 (4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-); 61-82-5 (s-Triazole, 3-amino-); 63-25-2 (Carbamic acid, methyl-, 1-naphthyl ester); 64-00-6 (Carbamic acid, methyl-, m-cumenyl ester); 66-81-9 (Glutarimide, 3-[2-(3,5-dimethyl-2-oxocyclohexyl)-2-hydroxyethyl]-); 72-43-5 (Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)-); 72-54-8 (Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)-); 72-56-0 (Ethane, 1,1-dichloro-2,2-bis(p-ethylphenyl)-); 76-44-8 (4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-); 78-34-2 (p-Dioxane-2,3-diyl ethyl phosphorodithioate, (C4H6O2S2)(EtO)4P2S2); 80-00-2 (Sulfone, p-chlorophenyl phenyl); 80-06-8 (Benzhydrol, 4,4'-dichloro-a-methyl-); 82-68-8 (Benzene, pentachloronitro-); 83-59-0 (Naphtho[2,3-d]-1,3-dioxole-

5,6-dicarboxylic acid, 5,6,7,8-tetrahydro-7-methyl-, dipropyl ester); 86-50-0 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with 3-(mercaptomethyl)-1,2,3-benzotriazin-4(3H)-one); 87-47-8 (Carbamic acid, dimethyl-, 3-methyl-1-phenylpyrazol-5-yl ester); 88-85-7 (Phenol, 2-sec-butyl-4,6-dinitro-); 90-15-3 (1-Naphthol); 97-16-5 (Phenol, 2,4-dichloro-, benzenesulfonate); 103-33-3 (Azobenzene (benzeneazobenzene); 114-26-1 (Carbamic acid, methyl-, o-isopropoxyphenyl ester); 115-29-7 (5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite); 115-31-1 (Thanite); 115-32-2 (Benzhydrol, 4,4'-dichloro-a-(trichloromethyl)-); 115-90-2 (Phosphorothioic acid, O,O-diethyl O-[p-(methylsulfinyl)phenyl] ester); 117-26-0 (Butane, 1,1-bis(p-chlorophenyl)-2-nitro-); 117-27-1 (Propane, 1,1-bis(p-chlorophenyl)-2-nitro-); 117-80-6 (1,4-Naphthoquinone, 2,3-dichloro-); 120-62-7 (Benzene, 1,2-(methylenedioxy)-4-[2-(octylsulfinyl)propyl]-); 121-75-5 (Succinic acid, mercapto-, diethyl ester S-ester with O,O-di-Me phosphorodithioate); 122-14-5 (Phosphorothioic acid, O,O-dimethyl O-4-nitro-m-tolyl ester); 124-96-9 (1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-); 126-15-8 (4a(4H)-Dibenzofurancarboxaldehyde, 1,5a,6,9,9a,9b-hexahydro-); 126-22-7 (Butyric acid, ester with dimethyl (2,2,2-trichloro-1-hydroxyethyl)phosphonate); 129-67-9 (7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid, disodium salt); 131-89-5 (Phenol, 2-cyclohexyl-4,6-dinitro-); 133-06-2 (4-Cyclohexene-1,2-dicarboximide, N-[(trichloromethyl)thio]); 133-07-3 (Phthalimide, N-[(trichloromethyl)thio]-); 134-62-3 (m-Toluamide, N,N-diethyl-); 137-26-8 (Disulfide, bis(dimethylthiocarbamoyl); 137-30-4 (Zinc, bis(dimethyldithiocarbamato)-); 140-56-7 (Benzenediazosulfonic acid, p-(dimethylamino)-, sodium salt); 140-57-8 (Sulfurous acid, 2-(p-tert-butylphenoxy)-1-methylethyl 2-chloroethyl ester); 143-50-0 (1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, decachlorooctahydro-); 148-24-3 (8-Quinolinol); 297-78-9 (4,7-Methanoisobenzofuran, 1,3,4,5,6,7,8,8-octachloro-1,3,3a,4,7,7a-hexahydro-); 298-00-0 (Phosphorothioic acid, O,O-dimethyl O-p-nitrophenyl ester); 298-04-4 (Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester); 299-85-4 (Phosphoramidothioic acid, isopropyl-, O-2,4-dichlorophenyl O-Me ester); 299-86-5 (Phosphoramidic acid, methyl-, 4-tert-butyl-2-chlorophenyl Me ester); 315-18-4 (Carbamic acid, methyl-, 4-(dimethylamino)-3,5-xylyl ester); 327-98-0 (Phosphonothioic acid, ethyl-, O-ethyl O-2,4,5-trichlorophenyl ester); 333-41-5 (Phosphorothioic acid, O,O-diethyl O-[2-isopropyl-6-methyl-4-pyrimidinyl) ester); 333-43-7 (Phosphonodithioic acid, ethyl-, O-ethyl S-p-tolyl ester); 465-73-6 (1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo-endo-); 500-28-7 (Phosphorothioic acid, O-(3-chloro-4-nitrophenyl) O,O-dimethyl ester); 510-15-6 (Benzilic acid, 4,4'-dichloro-, ethyl ester); 526-07-8 (Sesamolin); 533-74-4 (2H-1,3,5-Thiadiazine-2-thione, tetrahydro-3,5-dimethyl-); 534-52-1 (o-Cresol, 4,6-dinitro-); 555-89-5 (Methane, bis(p-chlorophenoxy)-); 563-12-2 (Ethyl methylene phosphorodithioate, [(EtO)2P(S)-S]2CH2); 584-79-2 (Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, ester with 2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one); 608-73-1 (Cyclohexane, 1,2,3,4,5,6-hexachloro-); 732-11-6 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with N-(mercaptomethyl)phthalimide); 786-19-6 (Phosphorodithioic acid, S-[[(p-chlorophenyl)thio]methyl] O,O-di-Et ester); 789-02-6 (Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)-); 900-95-8 (Tin, acetoxytriphenyl-); 944-22-9 (Phosphonodithioic acid, ethyl-, O-ethyl S-Ph ester); 953-17-3 (Phosphorodithioic acid, S-[[(p-chlorophenyl)thio]methyl] O,O-dimethyl ester); 1024-57-3 (4,7-Methanoindan, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7a-tetrahydro-); 1201-42-9 (Acetophenone, 2,2',4',5'-tetrachloro-); 1218-13-9 (Phosphorodithioic acid, O,O-dimethyl ester, S-ester with 3-(mercaptomethyl)-2-benzoxazolinone); 2032-59-9 (Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester); 2032-65-7 (Carbamic acid, methyl-, 4-(methylthio)-3,5-xylyl ester); 2164-09-2 (Acrylanilide, 3',4'-dichloro-2-methyl-); 2227-14-7 (Carbonic acid, trithio-, cyclic ester, with 6-methyl-2,3-quinoxalinedithiol); 2227-17-0 (Bi-2,4-cyclopentadien-1-yl, decachloro-); 2275-14-1 (Phosphorodithioic acid, S-[[(2,5-dichlorophenyl)thio]methyl] O,O-di-Et ester); 2437-33-4 (Benzenesulfonic acid, p-chlorophenyl ester); 2463-84-5 (Phosphorothioic acid, O-(2-chloro-4-nitrophenyl) O,O-di-Me ester); 2597-11-7 (4,7-Methanoinden-1-ol, 4,5,6,7,8,8-hexachloro-3a,4,7,7a-tetrahydro-); 2642-71-9 (Phosphorodithioic acid, O,O-diethyl ester S-ester with 3-(mercaptomethyl)-1,2,3-benzotriazin-4(3H)-one); 2667-49-4 (Phosphonothioic acid, methyl-, O-2,4-dichlorophenyl O-Me ester); 3369-52-6 (4,7-Methanoisobenzofuran, 4,5,6,7,8,8-hexachloro-1,3,3a,4,7,7a-hexahydro-); 3572-06-3 (2-Butanone, 4-(p-hydroxyphenyl)-, acetate); 3692-90-8 (Carbamic acid, methyl-, m-(2-propynyloxy)phenyl ester); 3737-22-2 (3,5-Pyridinedicarboxylic acid, diisopropyl ester); 5943-04-

4 (Sulfone, chloromethyl p-chlorophenyl); 6081-53-4 (2-Norbornene, 1,4,5,6,7,7-hexachloro-2-(dichloromethyl)-); 6119-92-2 (Crotonic acid, 2-(1-methylheptyl)-4,6-dinitrophenyl ester); 6369-96-6 (Acetic acid, (2,4,5-trichlorophenoxy)-, compd. with trimethylamine (1:1); 6734-84-5 (Ethane, 1,1,1-trichloro-2,2-bis(o-chlorophenyl)-); 7378-10-1 (2,5,7-Metheno-3H-cyclopenta[a]pentalen-3-one, 3b,4,5,6,6,6a-hexachlorodecahydro-); 12122-67-7 (Zinc, [ethylenebis[dithiocarbamato]]-); 18250-63-0 (Phosphoric acid, dimethyl ester, ester with cis-3-hydroxy-N,N-dimethylcrotonamide); 31116-84-4 (2-Propanone, (methoxyphenyl)-); 77287-19-5 (1,2,4-Methenocyclopenta[cd]pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-); 875253-22-8 (Crotonic acid, 3-hydroxy-, a-methylbenzyl ester) (detection of); 60-57-1 (1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo-exo-) (detection of;); 72-20-8 (1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo-endo-); 94-75-7 (Acetic acid, (2,4-dichlorophenoxy); 2104-64-5 (Phosphonothioic acid, phenyl-, O-ethyl O-p-nitrophenyl ester) (detection of; chromatog. of); 101-05-3P (s-Triazine, 2,4-dichloro-6-(o-chloroanilino)-) Role: PREP (Preparation) (extn. p-value of); 116-29-0 (Sulfone, p-chlorophenyl 2,4,5-trichlorophenyl) (partition of, p-value for); 70-38-2P (Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, 2,4-dimethylbenzyl ester); 72-55-9P (Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)-); 80-33-1P (Benzenesulfonic acid, p-chloro-, p-chlorophenyl ester); 115-29-7P (6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide); 12427-38-2P (Manganese, [ethylenebis[dithiocarbamato]]-) Role: PREP (Preparation) (prepn. of) cf. CA 62, 11087c. The extn. p-values (fraction of solute partitioning into upper phase of an equil. vol. 2-phase system) of 131 pesticides and related compds. in 6 solvent systems (hexane-acetonitrile, isooctane-dimethylformamide (DMF), isooctane-85% DMF, hexane-90% DMSO, heptane-90% EtOH, and isooctane-Me2CO) were detd. to aid in pesticide anal. and identification. The 85 compds. whose p-values were detd. by electron capture gas chromatog. have been tabulated in order of increasing retention time alongside their p-values to allow the best choice of the 6 solvent systems to be made for identification purposes. Remaining p-values were detd. gravimetrically. Math. formulas are given for calcg. from the p-values the fractional amt. extd. after repeated extns. Graphs are presented which allow the specificity of a given p-value in a given system to be detd. readily. [on SciFinder (R)] 0095-9111

167. Bowman, Malcolm C. and Beroza, Morton (1970). GLC [gas-liquid chromatographic] retention times of pesticides and metabolites containing phosphorus and sulfur on four thermally stable columns. *Journal - Association of Official Analytical Chemists* 53: 499-508.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1970:424179
Chemical Abstracts Number: CAN 73:24179
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (phosphorus- and sulfur-contg., gas chromatog. of)
Index Terms(2): Lethane A 70 Role: ANT (Analyte), ANST (Analytical study) (gas chromatog. of)
CAS Registry Numbers: 92-84-2 Role: ANT (Analyte), ANST (Analytical study) (chromatog. of, gas); 52-24-4; 52-46-0; 52-85-7; 55-37-8; 55-38-9; 56-38-2; 56-72-4; 57-39-6; 60-51-5; 62-73-7; 76-96-0; 78-34-2; 78-48-8; 78-57-9; 80-00-2; 80-33-1; 80-38-6; 86-50-0; 97-16-5; 97-17-6; 103-17-3; 107-49-3; 112-56-1; 115-31-1; 115-78-6; 115-90-2; 116-06-3; 116-29-0; 120-62-7; 121-75-5; 122-14-5; 133-06-2; 133-07-3; 137-26-8; 141-66-2; 150-50-5; 152-16-9; 297-97-2; 298-00-0; 298-02-2; 298-03-3; 298-04-4; 299-45-6 (Coumarin, 7-hydroxy-4-methyl-, O-ester with O,O-diethyl phosphorothioate); 299-84-3; 299-85-4; 299-86-5; 300-76-5; 311-45-5; 311-47-7; 321-54-0; 327-98-0; 333-41-5; 333-43-7; 470-90-6; 500-28-7; 502-55-6; 533-74-4; 545-55-1; 563-12-2; 572-48-5; 680-31-9; 732-11-6; 786-19-6; 919-76-6; 944-22-9; 953-17-3; 959-98-8; 961-11-5; 962-

58-3; 1031-07-8; 1079-33-0; 1114-71-2; 1218-13-9; 1497-41-2; 1610-18-0; 1634-78-2; 1646-87-3; 1646-88-4; 2032-65-7; 2104-64-5; 2179-25-1; 2212-67-1; 2255-17-6; 2274-67-1; 2310-17-0; 2439-01-2; 2463-84-5; 2497-06-5; 2497-07-6; 2588-03-6; 2588-04-7; 2588-05-8; 2588-06-9; 2600-69-3; 2635-10-1; 2642-71-9; 2665-28-3; 2667-49-4; 2921-31-5; 2921-88-2; 2939-80-2; 2984-80-7; 3244-90-4; 3383-96-8; 3735-33-9; 3761-41-9; 3761-42-0; 3851-88-5; 4658-28-0; 4891-54-7; 5234-68-4; 5259-88-1; 5286-73-7; 5598-15-2; 5826-91-5; 6012-97-1; 6552-12-1; 6552-13-2; 6552-21-2; 6923-22-4; 7533-78-0; 7533-79-1; 7700-17-6; 7786-34-7; 13171-21-6; 14086-35-2; 14816-18-3; 17040-19-6; 18181-70-9; 21609-90-5; 25006-32-0; 25601-84-7; 25675-80-3; 33213-65-9 Role: ANT (Analyte), ANST (Analytical study) (gas chromatog. of); 126-75-0 Role: BIOL (Biological study) (mixt. with O,O-diethyl O-[2-(ethylthio)ethyl] phosphorothioate, gas chromatog. of); 298-03-3 Role: BIOL (Biological study) (mixt. with O,O-diethyl S-[2-(ethylthio)ethyl] ester, gas chromatog. of); 2275-14-1P; 2588-05-8P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of) The relative retention times of 138 pesticides and metabolites contg. P and S were detd. on packings contg. liq. phases OV-101, OV-17, OV-210, and OV-225, using a flame photometric detector. These packings have excellent thermal stability and are likely to find widespread use in pesticide residue anals., esp. for the identification of multicomponent residues in environmental samples or in samples of unknown or indefinite history. Relative retention times were detd. isothermally and by temp. programming; the latter procedure was more reproducible and more useful for analyzing mixts. with widely differing retention times. [on SciFinder (R)] 0004-5756 phosphorus/ pesticides/ detn;/ sulfur/ pesticides/ detn

168. Bowman, Malcolm C. and Beroza, Morton (1967). Temperature-programmed gas chromatography of 20 phosphorus-containing insecticides on 4 different columns and its application to the analysis of milk and corn silage. *Journal - Association of Official Analytical Chemists* 50: 1228-36.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1968:38221
Chemical Abstracts Number: CAN 68:38221
Section Code: 17
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Milk; Silage (insecticides (phosphorus-contg.) detn. in); Insecticides (phosphorus-contg., detn. of, in milk and silage)
CAS Registry Numbers: 56-38-2 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in milk and silage); 56-72-4; 86-50-0; 121-75-5; 141-66-2; 297-97-2; 298-00-0; 298-02-2; 299-86-5; 333-41-5; 333-43-7; 563-12-2; 732-11-6; 786-19-6; 953-17-3; 961-11-5; 2104-64-5; 2667-49-4; 2921-88-2; 18181-70-9 Role: ANT (Analyte), FFD (Food or feed use), ANST (Analytical study), BIOL (Biological study), USES (Uses) (detn. of, in milk and silage) Relative retention times and conditions for the gas chromatog. of 20 P-contg. insecticides on 4 column packings, DC-200, QF-1, DC-710, and stabilized DEGS, were detd. With temp. programming, it is possible to analyze compds. of widely differing volatiles in a single run with good sensitivity and a large saving in time. Compds. were detected with the flame photometric detector of Brody and Chaney in both the P- and S-sensing modes and were identified in milk and corn silage at levels as low as 0.01 ppm. Recoveries of the insecticides from corn silage exceeded 90% and more often were better than 95%; those from milk were at least 80% and usually were above 90%. The gas chromatog. in a single multicomponent anal. required from 12 to 28 min. The procedure shows promise for identification or multicomponent anal. of P- and S-contg. pesticides as well as for the monitoring of foodstuffs and forage for these pesticides. 32 references. [on SciFinder (R)] 0004-5756 INSECTICIDES/ GAS/ CHROMATOG;/ CHROMATOG/ GAS/ INSECTICIDES;/ CORN/ SILAGE/ INSECTICIDES;/ SILAGE/ CORN/ INSECTICIDES;/ MILK/ INSECTICIDES/ GAS/ CHROMATOG;/ GAS/ CHROMATOG/ INSECTICIDES

169. Bowman, Malcolm C., Oller, William L., Kendall, Donald C., Gosnell, Aubrey B., and Oliver, Kelly H (1982). Stressed bioassay systems for rapid screening of pesticide residues. Part II: Determination of foliar residues for safe reentry of agricultural workers into the field. *Archives of Environmental Contamination and Toxicology* 11: 447-55.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 1982:497582
Chemical Abstracts Number: CAN 97:97582
Section Code: 59-5
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (foliar residues, detn. of, safe reentry of agricultural workers in relation to); Health hazard (from pesticides residues in leaves, detn. of, workers safety in relation to ,); Daphnia; Hyalella (in bioassay of foliar insecticide residue, safe reentry of agricultural workers in relation to); Leaf (insecticide residues of, method for detn. of, reentry of agricultural workers in relation to)
CAS Registry Numbers: 72-43-5; 86-50-0; 133-06-2; 298-00-0; 17804-35-2 Role: ANT (Analyte), ANST (Analytical study) (foliar residue, detn. of, reentry of agricultural workers in relation to); 86-50-0; 732-11-6 Role: ANT (Analyte), ANST (Analytical study) (foliar residues, detn. of, safe reentry of agricultural workers in relation to) A simple bioassay procedure employing Daphnia or Hyalella that can be conducted in the field is described as an alternative to chem. anal. to det. safe reentry into crops treated with pesticides. Dislodgeable residues on the foliage of peach trees were detd. chem. and with bioassays using the 2 organisms at various intervals after sequential sprays of azinphosmethyl [86-50-0], phosmet [732-11-6], and carbaryl (I) [86-50-0]. Results obtained by the parallel chem. and bioassay procedures were in excellent agreement. Ancillary chem. data are also presented on the percentage of total residues dislodgeable with water from foliage and soil and uniformity of residues on the foliage in a peach orchard. [on SciFinder (R)] 0090-4341 pesticide/ detn/ leaf/ worker

170. Brandt, Wolf F. and Frank, Gerhard (1988). Manual gas-phase isothiocyanate degradation. *Analytical Biochemistry* 168: 314-323.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

We describe a manual gas-phase isothiocyanate degradation procedure for the primary structure determination of proteins and peptides. The proteins and peptides are applied to a polybrene-coated glass fiber filter wedged into a small glass column. The phenylisothiocyanate is directly pipetted onto the filter disk. The coupling and cleavage reactions are performed in small desiccators containing trimethylamine and trifluoroacetic acid vapors, respectively. The wash and extraction steps are performed by allowing the suitable solvents to percolate through the filter disk. The extracted anilinothiazolinone is then converted to the phenylthiohydantoin and identified by any one of a number of described methods. Our results show that this method is very sensitive and that the reactions proceed faster than those of the published automated procedure. No expensive equipment is required and the manual degradation can be performed by a laboratory assistant. A large number of samples can be simultaneously subjected to the degradation under identical conditions, making this an ideal method for physicochemical investigations into the isothiocyanate degradation. We also use this method to screen HPLC fractions after enzymatic protein fragmentation. Manually sequenced glass filters can be transferred to the automated instrument for more extended degradations. protein sequencing/ manual gas-phase/ isothiocyanate degradation http://www.sciencedirect.com/science/article/B6W9V-4DW2KF8-H3/2/0bbf8e7e44fbda60a3449c77944a0cc8

171. Braun, Andrew G. and Horowicz, Peter B (1983). Lectin-mediated attachment assay for teratogens: results

with 32 pesticides. *Journal of Toxicology and Environmental Health* 11: 275-86.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

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Database: CAPLUS
Accession Number: AN 1983:211340
Chemical Abstracts Number: CAN 98:211340
Section Code: 4-6
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Teratogenesis (from pesticides); Pesticides (teratogenicity of)
CAS Registry Numbers: 50-29-3; 55-38-9; 56-38-2; 58-89-9; 58-90-2; 60-57-1; 62-73-7; 63-25-2; 72-20-8; 81-81-2; 85-00-7; 87-86-5; 93-72-1; 93-76-5; 94-75-7; 97-77-8; 115-32-2; 121-75-5; 126-07-8; 133-06-2; 133-07-3; 137-26-8; 298-00-0; 309-00-2; 333-41-5; 732-11-6; 1121-30-8; 1563-66-2; 1746-01-6; 2425-06-1; 4685-14-7; 8065-48-3; 17804-35-2 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (teratogenicity of) To gain experience in the in vitro assay of environmental teratogens, 32 pesticides and TCDD [1746-01-6] were tested for their ability to inhibit tumor cells attachment to polyethylene disks coated with concanavalin A. Of 25 pesticides that inhibited attachment, 23 (92%) were reported to be teratogenic in mammals or avians. From a qual. viewpoint, agents that inhibit attachment in vitro are very likely to be teratogenic in vivo. There was a quant. correlation between the inhibitory activity and the lowest reported teratogenic dose in chick embryo for 9 pesticides. However, no similar correlation between inhibitory concn., in vitro, and mammalian teratogenicity was found. Presumably maternal effects of absorption, metab., and distribution distort the relation between the dose administered to the mother and the concn. of teratogenic agent at target embryonic tissues. Lack of inhibition in vitro did not indicate lack of teratogenicity, as 5 or 8 noninhibitory agents were reported to be teratogenic in vivo. Such false negatives of the attachment assay may be detectable in complementary in vitro tests. [on SciFinder (R)] 0098-4108 pesticide/ teratogenicity

172. Bravo, Roberto, Caltabiano, Lisa M., Weerasekera, Gayanga, Whitehead, Ralph D., Fernandez, Carolina, Needham, Larry L., Bradman, Asa, and Barr, Dana B (2004). Measurement of dialkyl phosphate metabolites of organophosphorus pesticides in human urine using lyophilization with gas chromatography-tandem mass spectrometry and isotope dilution quantification. *Journal of Exposure Analysis and Environmental Epidemiology* 14: 249-259.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH, CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:386380
Chemical Abstracts Number: CAN 142:149879
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 9
Document Type: Journal
Language: written in English.
Index Terms: Phosphates Role: ADV (Adverse effect, including toxicity), ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (alkyl compds.; dialkyl phosphate metabolites of organophosphorus pesticides metabolites in human urine using lyophilization with gas chromatog.-tandem mass spectrometry and isotope diln. quantification); Development (child; dialkyl phosphate metabolites of organophosphorus pesticides metabolites in human urine using lyophilization with gas chromatog.-tandem mass spectrometry and isotope diln. quantification); Gas chromatography; Isotope dilution mass spectrometry; Pregnancy; Tandem mass spectrometry; Urine analysis (dialkyl phosphate metabolites of organophosphorus pesticides metabolites in human urine using lyophilization with

gas chromatog.-tandem mass spectrometry and isotope diln. quantification); Pesticides (organophosphorus; dialkyl phosphate metabolites of organophosphorus pesticides metabolites in human urine using lyophilization with gas chromatog.-tandem mass spectrometry and isotope diln. quantification); Human (women; dialkyl phosphate metabolites of organophosphorus pesticides metabolites in human urine using lyophilization with gas chromatog.-tandem mass spectrometry and isotope diln. quantification)
CAS Registry Numbers: 598-02-7 (Diethylphosphate); 813-78-5 (Dimethylphosphate); 2465-65-8 (DETP); 32534-66-0 (Dimethyldithiophosphate); 52857-42-8 (Diethyldithiophosphate) Role: ADV (Adverse effect, including toxicity), ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (dialkyl phosphate metabolites of organophosphorus pesticides metabolites in human urine using lyophilization with gas chromatog.-tandem mass spectrometry and isotope diln. quantification); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyrifos); 3383-96-8 (Temephos); 3689-24-5 (Sulfotepp); 5598-13-0 (Chlorpyrifos methyl); 13071-79-9 (Terbufos); 22248-79-9 (Tetrachlorvinphos); 29232-93-7 (Pirimiphos-methyl); 42509-83-1 (Isazophos-methyl); 54593-83-8 (Chlorethoxyphos) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (dialkyl phosphate metabolites of organophosphorus pesticides metabolites in human urine using lyophilization with gas chromatog.-tandem mass spectrometry and isotope diln. quantification); 60-29-7 (Ethyl ether); 67-56-1 (Methanol); 75-05-8 (Acetonitrile); 75-09-2 (Dichloromethane) Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (dialkyl phosphate metabolites of organophosphorus pesticides metabolites in human urine using lyophilization with gas chromatog.-tandem mass spectrometry and isotope diln. quantification)
Citations: Anwar, W; Environ Health Perspect 1997, 105(Suppl 4), 801
Citations: Aprea, C; J Anal Toxicol 1996, 20, 559
Citations: Aprea, C; Sci Total Environ 1996, 177, 37
Citations: Aprea, C; Arch Environ Contamin Toxicol 1999, 36, 490
Citations: Aprea, C; Int Arch Occup Environ Health 1994, 66, 333
Citations: Aprea, C; Environ Health Perspect 2000, 108, 521
Citations: Azaroff, L; Environ Res 1999, 80, 138
Citations: Bardarov, V; J Chromatogr 1989, 462, 233
Citations: Bradway, D; J Agric Food Chem 1977, 25, 1342
Citations: Bravo, R; J Anal Toxicol 2002, 26, 245
Citations: Cdc; www.cdc.gov/nceh/dls/ 2002
Citations: Cocker, J; Toxicol Lett 2002, 134, 97
Citations: Davies, J; Ann NY Acad Sci 1997, 837, 257
Citations: Drevenkar, V; Arch Environ Contamin Toxicol 1991, 20, 417
Citations: Driskell, W; American Society for Mass Spectrometry Conference, Poster No 167 1999
Citations: Epa; www.epa.gov/pesticides/op 1999
Citations: Eskenazi, B; Environ Health Perspect 1999, 107(Suppl 3), 409
Citations: Eskenazi, B; Child Health 2003, 1(1), 3
Citations: Fenske, R; J Agric Food Chem 1989, 37, 995
Citations: Fenske, R; J Expo's Anal Environ Epidemiol 2000, 10, 662
Citations: Garfitt, S; Biomarkers 2002, 7, 113
Citations: Garfitt, S; Toxicol Lett 2002, 134, 105
Citations: Gustafsson, J; Clin Chim Acta 1978, 90, 249
Citations: Hardt, J; J Anal Toxicol 2000, 24, 678
Citations: Hernandez, F; Rapid Commun Mass Spectrom 2002, 16, 1766
Citations: Heudorf, U; Environ Res 2001, 86, 80
Citations: Loewenherz, C; Environ Health Perspect 1997, 105, 1344
Citations: Lores, E; J Agric Food Chem 1976, 25, 75
Citations: Lu, C; Environ Health Perspect 2001, 109, 299

Citations: Moate, T; J Anal Toxicol 1999, 23, 230
Citations: Needham, L; Toxicol Lett 1995, 82-83, 373
Citations: Oglobline, A; Analyst 2001, 126, 1037
Citations: Oglobline, A; J Anal Toxicol 2001, 25, 153
Citations: Persson, B; LC-GC North Am 1998, 16(6), 556
Citations: Reid, S; J Anal Toxicol 1981, 15, 126
Citations: Simcox, N; Am Ind Hyg Assoc J 1999, 60, 752
Citations: Taylor, J; Quality Assurance of Chemical Measurements 1987, 75
Citations: Weisskopf, C; Biological Monitoring for Pesticide Exposure Measurement, Estimation, and Risk Reduction 1989, 206
Citations: Wessels, D; Environ Health Perspect, doi:10.1289/ehp 6316 2003
Citations: Westgard, J; Basic QC Practices, Training in Statistical Quality Control for Health Care Laboratorie, 2nd edn, http://www.westgard.com/basicqcbook.htm 2002
Citations: Whyatt, R; Environ Health Perspect 2001, 109, 417 Urinary dialkylphosphate (DAP) metabolites have been used to est. human exposure to organophosphorus pesticides. The authors developed a method for quantifying the six DAP urinary metabolites of at least 28 organophosphorus pesticides using lyophilization and chem. derivatization followed by anal. using isotope-diln. gas chromatog.-tandem mass spectrometry (GC-MS/MS). Urine samples were spiked with stable isotope analogs of the DAPs and the water was removed from the samples using a lyophilizer. The dried residue was dissolved in acetonitrile and di-Et ether, and the DAPs were chem. derivatized to their resp. chloropropyl phosphate esters. The chloropropyl phosphate esters were concd., and analyzed using GC-MS/MS. The limits of detection of the method were in the low mg/l (ppb) to mid pg/mL range (parts per trillion) with coeffs. of variation of 7-14%. The use of stable isotope analogs as internal stds. for each of these metabolites allows for sample-specific adjustment for recovery and thus permits a high degree of accuracy and precision. Use of this method with approx. 1100 urine samples collected from pregnant women and children indicate that the low limits of detection allow this method to be used in general population studies. [on SciFinder (R)] 1053-4245 dialkyl/ phosphate/ metabolite/ organophosphate/ pesticide/ human/ urine/ GC/ MS;/ gas/ chromatog/ alkyl/ phosphate/ metabolite/ organophosphate/ pesticide/ mass/ spectrometry;/ isotope/ diln/ GC/ MS/ alkyl/ phosphate/ metabolite/ organophosphate/ pesticide

173. Bravo, Roberto, Driskell, William J., Whitehead, Ralph D. Jr., Needham, Larry L., and Barr, Dana B (2002). Quantitation of dialkyl phosphate metabolites of organophosphate pesticides in human urine using GC-MS-MS with isotopic internal standards. *Journal of Analytical Toxicology* 26: 245-252.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:560094
Chemical Abstracts Number: CAN 137:227812
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus; quantitation of dialkyl phosphate metabolites of organophosphate pesticides in human urine using GC-MS-MS with isotopic internal stds.); Biomarkers; Gas chromatography; Human; Tandem mass spectrometry; Urine analysis (quantitation of dialkyl phosphate metabolites of organophosphate pesticides in human urine using GC-MS-MS with isotopic internal stds.)
CAS Registry Numbers: 114081-91-3; 457957-07-2; 457957-08-3; 457957-09-4; 457957-10-7; 457957-11-8 Role: ANT (Analyte), ANST (Analytical study) (quantitation of dialkyl phosphate metabolites of organophosphate pesticides in human urine using GC-MS-MS with isotopic internal stds.); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos); 121-75-5

(Malathion); 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyrifos); 3383-96-8 (Temephos); 3689-24-5 (Sulfotepp); 5598-13-0 (Chlorpyrifos methyl); 13071-79-9 (Terbufos); 22248-79-9 (Tetrachlorvinfos); 29232-93-7 (Pirimiphos-methyl); 42509-83-1 (Isazophos methyl); 54593-83-8 (Chlorethoxyphos) Role: BSU (Biological study, unclassified), BIOL (Biological study) (quantitation of dialkyl phosphate metabolites of organophosphate pesticides in human urine using GC-MS-MS with isotopic internal stds.); 298-06-6; 598-02-7 (Diethyl phosphate); 813-78-5 (Dimethyl phosphate); 2465-65-8; 32534-66-0 (Dimethyl dithiophosphate); 59401-04-6 (Dimethyl thiophosphate) Role: BSU (Biological study, unclassified), RCT (Reactant), BIOL (Biological study), RACT (Reactant or reagent) (quantitation of dialkyl phosphate metabolites of organophosphate pesticides in human urine using GC-MS-MS with isotopic internal stds.)
Citations: 1) Koelle, G; J Appl Toxicol 1994, 14, 105
Citations: 2) Gompertz, D; Biological Monitoring of Chemical Exposure in the Workplace 1996, 1, 237
Citations: 3) Leiss, J; Am J Public Health 1995, 85(2), 250
Citations: 4) Fenske, R; Am J Public Health 1990, 80, 689
Citations: 5) Simcox, N; Environ Health Perspect 1995, 103, 1126
Citations: 6) Nutley, B; Pest Sci 1993, 38, 315
Citations: 7) Shafik, T; J Agr Food Chem 1973, 21, 625
Citations: 8) Lores, E; J Agr Food Chem 1997, 25, 75
Citations: 9) Moody, R; J Agr Food Chem 1985, 33, 464
Citations: 10) Weisskopf, C; ACS Symposium Series 1989, 382, 206
Citations: 11) Reid, S; J Anal Toxicol 1981, 5, 126
Citations: 12) Bradway, D; Bull Environ Contam Toxicol 1981, 26, 520
Citations: 13) Fenske, R; J Agric Food Chem 1985, 37, 995
Citations: 14) Loewenherz, C; Environ Health Perspect 1997, 105(12), 1344
Citations: 15) Moate, T; J Anal Toxicol 1999, 23, 230
Citations: 16) Aprea, C; J Anal Toxicol 1996, 20, 559
Citations: 17) Hardt, J; J Anal Toxicol 2000, 24, 678
Citations: 18) Gustafsson, J; Clinica Chimica Acta 1978, 90(3), 249
Citations: 19) Anon; http://www.westgard.com
Citations: 20) Taylor, J; Quality Assurance of Chemical Measurements 1987, 75
Citations: 21) Persson, B; LC-GC 1998, 16(6), 556
Citations: 22) NCHS; Plan and operation of the Third National Health and Nutrition Examination Survey 1994, 1, 1
Citations: 23) Beeson, M; Anal Chem 1999, 71(16), 3526
Citations: 24) Baker, S; J Expos Analysis Envirom Epidem 2000, 10, 789
Citations: 25) Gunderson, E; J Assoc Off Anal Chem Int 1995, 78, 1353 Human exposure to organophosphate pesticides can be estd. from the presence of urinary metabolites. An isotope-diln. gas chromatog.-tandem mass spectrometry (GC-MS-MS) method was developed for quantitating the six dialkyl phosphate urinary metabolites of at least 29 organophosphate pesticides. Urine samples were spiked with stable isotope analogs of the dialkyl phosphates, evapd. using azeotropic distn., followed by chem. derivatization of the metabolites to their resp. chloropropyl phosphate esters. The chloropropyl phosphate esters were concd. and then analyzed using GC-MS-MS. The limits of detection (LODs) of the method were in the low-to-mid picogram-per-milliliter range (parts per trillion) with coeffs. of variation of less than 20%. The use of stable isotope analogs as internal stds. for each of these metabolites allows for the highest degree of accuracy and precision. Addnl., the low LODs allow the use of this method in general population studies. (c) 2002 Preston Publications. [on SciFinder (R)] 0146-4760 alkyl/ phosphate/ metabolite/ organophosphate/ pesticide/ urine/ GC/ MS

174. Breckenridge, Charles B., Sielken, Robert L. Jr., and Stevens, James T (1999). Aggregate and cumulative exposure and risk assessment. *ACS Symposium Series* 734: 38-67.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: MODELING, HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 1999:470582
Chemical Abstracts Number: CAN 131:224559
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Brain; Erythrocyte (acetylcholinesterase; aggregate and cumulative exposure and risk assessment); Probability; Risk assessment (aggregate and cumulative exposure and risk assessment); Insecticides (organophosphorus; aggregate and cumulative exposure and risk assessment); Simulation and Modeling (probabilistic; aggregate and cumulative exposure and risk assessment)
CAS Registry Numbers: 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 298-00-0 (Methyl parathion); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyrifos); 10265-92-6 (Methamidophos); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (aggregate and cumulative exposure and risk assessment); 9000-81-1 (Acetylcholinesterase) Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study) (brain and erythrocyte; aggregate and cumulative exposure and risk assessment)
Citations: 1) Bliley, R; Food Quality Protection Act of 1996, 104 Congress 2nd Session Report 104-669 1996, part 2, 1
Citations: 2) US Environmental Protection Agency (EPA); Fed Reg 1992, 57(104), 22888
Citations: 3) Petersen, B; Food Technology 1988, 42(7), 59
Citations: 4) US Environmental Protection Agency (EPA); Final Office Policy for Performing Acute Dietary Exposure Assessment 1996
Citations: 5) United States Department Of Agriculture (USDA); Continuing Survey of Food Intake by Individuals 1998, 1994
Citations: 6) US Environmental Protection Agency (EPA); Fed Reg 1991, Part II, 3525
Citations: 7) Barrett, M; Initial Tier Screening of Pesticides for Ground Water Concentrations Using the SCI-GROW Model 1997
Citations: 8) Parker, R; Development for Screening Level Estimation of Pesticide Exposure in the Aquatic Environment
Citations: 9) Chen, W; A Simple Regression Model for Predicting Surface Water Concentrations Resulting from Agricultural Field Runoff and Erosion 1998
Citations: 10) Sielken, R; American Chemical Society Symposium Series # 683 1998
Citations: 11) Anon; Personal Communication from Selman F 1998
Citations: 12) US Environmental Protection Agency (EPA); Exposure Factors Handbook General Factors, EPA/600/P-95/002Fa 1997
Citations: 13) American Industrial Health Council; Exposure Factors Sourcebook 1994
Citations: 14) Doane Marketing Research Inc;
Citations: 15) Versar, Inc; Pesticide Handlers Exposure Data Base (PHED) 1992, 57(107), 23403
Citations: 16) US Environmental Protection Agency (EPA); Pesticide assessment guidelines for applicator exposure monitoring - Subdivision U, EPA-540/9-87/127 1987
Citations: 17) US Environmental Protection Agency (EPA); Pesticide assessment guidelines - Subdivision K 1987
Citations: 18) Finley, B; Risk Anal 1994, 14, 53
Citations: 19) National Research Council (NRC); Pesticides in the diets of Infants and Children 1993
Citations: 20) United States Environmental Protection Agency; Guidance for Submission of Probabilistic Exposure Assessments to the Office of Pesticides Programs 1998
Citations: 21) Environmental Working Group; Overexposed: Organophosphate Insecticides in Children's Food, FIFRA Scientific Advisory Panel (SAP) Meeting 1998
Citations: 22) Hetrick, J; Proposed Methods of Basin-scale Estimation of Pesticide Concentrations

in Flowing Water and Reservoirs for Tolerance Reassessment, FIFRA Scientific Advisory Panel (SAP) Meeting 1998
Citations: 23) Anon; Safe Drinking Water Act (SDWA) Federal Register 1991, Parts 22 & 142, 3752
Citations: 23) Anon; Amended 1996
Citations: 24) Sielken, R; EPA MRID No 43934415 1998 Interest in methodol. for assessing the probability of exposure to a single chem. arising from multiple pathways (e.g. diet, water, residential) or to multiple chems. having the same mechanism of toxicity has increased since the Food Quality Protection Act became law in 1996. Use of probability distributions to characterize exposure make it possible for (1) the continuum of data from the largest to the smallest values to be expressed, (2) the relative likelihood of occurrence to be described, (3) the uncertainty for each component to be reflected and for (4) the individual variability in the population to be captured. Exposure can be aggregated in a math. correct way and be characterized relative to benchmarks of toxicity such as the NOEL, the RfD, the ED10 or an upper bound cancer potency est. (Q1*). Using these procedures, the risk manager can det. the probability that exposure is less than or equal to an acceptable daily dose for the whole population or a selected subpopulation. [on SciFinder (R)] 0097-6156 aggregate/ cumulative/ exposure/ risk/ assessment

175. Breum, Niels O., Nielsen, Birgitte H., Nielsen, Eva M., Midtgaard, Uffe, and Poulsen, Otto M. (1997). DUSTINESS OF COMPOSTABLE WASTE: A METHODOLOGICAL APPROACH TO QUANTIFY THE POTENTIAL OF WASTE TO GENERATE AIRBORNE MICRO-ORGANISMS AND ENDOTOXIN. *Waste Management & Research* 15: 169-187.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, BACTERIA.

The objective of the present study was to assess the effect of different waste storage systems on the potential of the waste to emit airborne dust, micro-organisms and endotoxin. Batches of 8.8 kg of compostable waste were incubated at 20[degree sign]C for periods of 1-2 weeks in three different storage systems: a system with relatively free access of air (FA) to the waste (paper bags in the kitchen, paper sacks outside the house), a system with low access (LA) of air (plastic bags in the kitchen, a container outside the house), and an intermediate (IA) system (trash can in the kitchen, a container outside the house). The compostable waste was prepared in the laboratory using a standard recipe simulating average kitchen waste in Denmark. Weight loss and temperature of the waste were recorded during the storage period. After incubation, the volume of percolate was determined and the dustiness of the waste was measured in terms of the potential of the waste to emit bio-aerosols in a rotating drum. Storage in the FA system resulted in high weight loss of the waste (15-25% per week), a maximum temperature of 45[degree sign]C and no percolate was observed. The LA system resulted in low weight loss (<3% per week), a temperature at ambient level and a volume of percolate less than 0.1 litre. Waste stored in the IA system was intermediate with a weight loss of 5-8% per week, a maximum temperature of 36[degree sign]C and a volume of percolate less than 1 litre. Dustiness in terms of dust, endotoxin and micro-organisms was highly correlated to weight loss of the waste. Storage of the waste in the FA system resulted in extremely high concentrations of airborne micro-organisms in the rotating drum compared to that seen after storage in the LA system. The dustiness with respect to airborneAspergillus fumigatuswas at least a factor of 400 000 higher for FA waste compared to LA waste. The present method of testing dustiness of waste is considered important for the design of waste collection equipment and may therefore, over time, contribute to an improved air quality for the workers engaged in waste handling. Dustiness; compostable waste; bio-aerosol; fungi; bacteria; endotoxin; weight loss; temperature; rotating drum tester; Denmark
http://www.sciencedirect.com/science/article/B6WXS-45K0XTV-18/2/df5582115b26b644d41dcd5eb9e9a95c

176. Broadbent, David J. and Ashley, H. Freiberg (19730515). Stabilized aqueous suspension of phthalimidomethyl monothio- or dithio-phosphates or phosphonates. 7 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Database: CAPLUS
Accession Number: AN 1974:47837
Chemical Abstracts Number: CAN 80:47837
Section Code: 27-11
Section Title: Heterocyclic Compounds (One Hetero Atom)
CA Section Cross-References: 5
Coden: SFXXAB
CAS Registry Numbers: 7664-38-2 Role: USES (Uses) (stabilization of phosphorodithioate insecticide by); 732-11-6 Role: PROC (Process) (stabilization of, in aq. soln.)
Patent Application Country: Application: ZA Suspensions of S-phthalimidomethyl O,O-dimethyl phosphorodithioate in hard water were stabilized by adding sufficient H3PO4 to neutralize the alky. of the water. [on SciFinder (R)] C07D. phthalimidomethyl/ phosphorodithioate/ stabilization;/ phosphoric/ acid/ insecticide/ stabilization

177. Brockwell, J. and Robinson, A. C (1976). Effects of commercial organophosphorus insecticides on the growth in culture, viability in seed pellets, and symbiotic nitrogen fixation of Rhizobium spp. *Field Station Record (Australia, Commonwealth Scientific and Industrial Research Organization, Division of Plant Industry)* 15: 15-26.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1977:1050
Chemical Abstracts Number: CAN 86:1050
Section Code: 5-4
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
Index Terms: Rhizobium japonicum; Rhizobium meliloti; Rhizobium trifolii (organophosphorus insecticides toxicity to)
CAS Registry Numbers: 60-51-5; 121-75-5; 732-11-6; 950-37-8; 2540-82-1 Role: PRP (Properties) (toxicity of, to Rhizobium) The order of toxicity of the organophosphorus insecticides to Rhizobium in vitro was formothion [2540-82-1] > phosmet [732-11-6] > malathion [121-75-5] = methidathion [950-37-8] = dimethoate [60-51-5]. R. japonicum was more sensitive than R. meliloti and R. trifolii. In seed pelleting and inoculation expts. R. trifolii was more sensitive than R. meliloti. Foliar application of the insecticides to inoculated alfalfa and subterranean clover seedlings did not affect the N fixation. [on SciFinder (R)] 0015-0738 organophosphorus/ insecticide/ Rhizobium

178. Broday, D., Shapiro, M., Fichman, M., and Gutfinger, C. (1996). Stability of motion of spheroidal particles in a simple shear flow. *Journal of Aerosol Science* 27: S275-S276.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Particle inertia/ stability of motion/ trajectories/ translation-rotation/ drift
http://www.sciencedirect.com/science/article/B6V6B-46204K8-3G/2/839a451302d6cdb59f7086f70c1c618e

179. Broderick, Edward John, Taschenberg, Emil F., Hicks, L. J., Avens, Alfred W., and Bourke, John B (1967). Rapid method for surface residues of organophosphorus pesticides by total phosphorus . *Journal of Agricultural and Food Chemistry* 15: 454-6.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1967:420674
Chemical Abstracts Number: CAN 67:20674

Section Code: 17
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Fruit (diazinon, Guthion and Imidan residue detn. on); Pesticides (phosphorus compds., detn. of residues of, on fruit)
CAS Registry Numbers: 86-50-0; 333-41-5; 732-11-6 Role: BIOL (Biological study) (detn. of residues of, on fruit) A method is described for the rapid detn. of surface residues of diazinon, Guthion, and Imidan on whole fresh fruit. A simple wet ashing was sufficient to convert diazinon and Guthion to the inorg. phosphate; however, the addition of HBr to the ashing step was necessary for Imidan. Correlation of results from the proposed method with those of other methods was acceptable. [on SciFinder (R)] 0021-8561 ORG/ P/ PESTICIDES/ DETN;/ INSECTICIDES/ RESIDUES/ DETN;/ RESIDUES/ PESTICIDES/ DETN

180. Brown, J., Ray, N. J., and Ball, M. (1976). The Disposal of Pulverised Fuel Ash in Water Supply Catchment Areas. *Water Res. Vol. 10, no. 12, pp. 1115-1121. 1976.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Descriptors: Article Subject Terms: Ashes
Descriptors: Freshwater pollution
Descriptors: Water quality
Descriptors: Filtration
Descriptors: Waste disposal
Abstract: Lab and field investigations have been made of factors influencing the leaching of substances from beds of p.f.a. Results presented allow the likely pattern and quality of percolate from p.f.a. beds to be predicted. By combining these with hydrogeological data, a dumping regime can be specified so that risks will not arise to drinking, or other, water supplies.
Records keyed from 1977 ASFA printed journals.
Language: English
English
Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: Q5 01504 Effects on organisms
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

181. Brown, M. W. and Puterka, G. J. (1997). Orchard Management Effects on the Arthropod Community on Peach With Comparison to Apple. *Journal of entomological science* 32: 165-182.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. One hundred sixty-two species were recorded as part of the arthropod community associated with peach in eastern West Virginia. The community was composed of 33% phytophages, 35% insectivores, 14% scavengers, and 18% tourists. Diversity of the arthropod community was correlated inversely with intensity of orchard management. Comparing the phytophagous community on apple (from an earlier study) with that on peach, Lepidoptera comprised 49% on apple and only 31% on peach; Hemiptera comprised 9% on apple and 19% on peach. Diversity of the phytophagous arthropod community was significantly less in peach than in apple orchards, but was more similar in commercially-managed orchards than in unmanaged orchards. It is concluded that in commercially-managed peach and apple orchards insecticide use is the dominant factor controlling community structure, whereas, in unmanaged orchards the communities in peach and apple evolve into distinctly different communities. The presence of cy
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS

MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: TROPICAL CLIMATE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ARTHROPODS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: PLANTS, MEDICINAL
MESH HEADINGS: ARTHROPODS
MESH HEADINGS: HEMIPTERA
MESH HEADINGS: LEPIDOPTERA
KEYWORDS: Ecology
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Horticulture-Tropical and Subtropical Fruits and Nuts
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Invertebrata
KEYWORDS: Rosaceae
KEYWORDS: Arthropoda-Unspecified
KEYWORDS: Hemiptera
KEYWORDS: Lepidoptera
LANGUAGE: eng

182. Bruder-Hubscher, V., Lagarde, F., Leroy, M. J., Coughanowr, C., and Enguehard, F. (Utilisation of Bottom Ash in Road Construction: a Lysimeter Study. *Waste manag res. 2001, dec; 19(6):557-66. [Waste management & research : the journal of the international solid wastes and public cleansing association, iswa]: Waste Manag Res.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

ABSTRACT: The incineration of municipal solid waste (MSW) results in the annual production of 2.7 million tons of bottom ash in France. Utilisation of bottom ash in road construction is encouraged in France but strictly regulated. Because the incinerator residues contain enriched concentrations of metals and salts, particular attention must be focused on the potential environmental problems. In the present study, a laboratory tool (lysimeter) has been developed to reproduce the conditions of bottom ash utilisation and to study their environmental impact via the percolates collected at the bottom of the lysimeter. Four lysimeter experiments were conducted in order to study reproducibility, as well as the influence of water flow rate and pressure on the

composition of the percolates. The lysimeter experiments have been then compared with the utilisation of bottom ash under real conditions (two experimental road sections). The comparison of results of lysimeter test and those measured after performing the French standard leach test (AFNOR NF X31-210) shows a recovery of 89% for the chlorides and between 30 and 35% for the sulfates. This indicates that almost all chlorides have been dissolved, contrary to the sulfates, which are less soluble.
MESH HEADINGS: Chlorides/analysis
MESH HEADINGS: *Conservation of Natural Resources
MESH HEADINGS: Environmental Monitoring/*methods
MESH HEADINGS: Environmental Pollutants/analysis
MESH HEADINGS: Incineration
MESH HEADINGS: *Refuse Disposal
MESH HEADINGS: Solubility
MESH HEADINGS: Sulfates/analysis
MESH HEADINGS: *Transportation
MESH HEADINGS: Water Movements
LANGUAGE: eng

183. Brun, G. L. and Mallet, V (1973). Detection of organophosphorus pesticides by in situ fluorometry on thin-layer chromatograms. *Journal of Chromatography* 80: 117-23.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1973:512253
Chemical Abstracts Number: CAN 79:112253
Section Code: 5-1
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (phosphorus-contg., detection of, fluorometric)
CAS Registry Numbers: 55-38-9; 56-38-2; 56-72-4; 86-50-0; 333-41-5; 732-11-6; 2310-17-0; 2921-88-2; 3811-49-2; 13593-03-8 Role: ANT (Analyte), ANST (Analytical study) (detection of, by fluorometry of thin-layer chromatograms) A method is described for the direct fluorometric detection of organophosphorous pesticides on thin-layer chromatograms using a 1 mg sample. Of 35 compds. tested, 12 showed pos. results. Among those compds. detected by this method were azinphosmethyl [86-50-0], Bayrusil [13593-03-8], coumaphos [56-72-4], Dursban [2921-88-2], Imidan [732-11-6], and phosalone [2310-17-0]. Some pesticides which were not detectable by this method were diazinon [333-41-5], parathion [56-38-2], fenthion [55-38-9], and salithion [3811-49-2]. One approach to this method involves heating the coated plate prior to fluorometric anal., while the other involves spraying the plate with strong acid or base prior to heating. The limit of detection by this latter technique was 0.001 mg. [on SciFinder (R)] 0021-9673 pesticide/ fluorometric/ detn;/ chromatog/ fluorometry/ pesticide;/ Dursban/ fluorometric/ detn;/ phosalone/ fluorometric/ detn;/ insecticide/ detn/ fluorometry

184. Brun, G. L. , Surette, D., and Mallet, V (1973). New method for the detection of organophosphorus pesticides by in situ fluorometry on thin-layer chromatograms. *International Journal of Environmental Analytical Chemistry* 3: 61-71.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1974:56326
Chemical Abstracts Number: CAN 80:56326
Section Code: 5-1
Section Title: Agrochemicals

Document Type: Journal
Language: written in English.
Index Terms: Chromatography (of phosphorus-contg. pesticides, fluorometry detection in); Pesticides (organsphosphorus, fluorometric detection of)
CAS Registry Numbers: 56-72-4; 78-57-9; 86-50-0; 297-97-2; 732-11-6; 1491-41-4; 2310-17-0; 2921-88-2 Role: ANT (Analyte), ANST (Analytical study) (detection of, fluorometric, on thin-layer, chromatograms) Certain organophosphorus pesticides were rendered fluorescent on thin-layer silica gel H plates by heating at an optimum temp. for a definite period of time, thus eliminating the need for fluorogenic spray reagents. The following compds. were detected (heating temp. in degrees, heating time in min, max. extinction and emission wavelength in nm, and visual detection limit in mg. given): azinphos-methyl (I) [86-50-0] 200, 30, 342, 442, and 0.3, coumaphos [56-72-4] 200, 20, 344, 400, and 0.001, Dursban [2921-88-2] 225, 30, 358, 458, and 0.06, Imidan [732-11-6] 225, 30, 345, 505, and 1, Menazon [78-57-9] 225, 30, 370, 475, and 0.009, phosalone [2310-17-0] 200, 120, 370, 489, and 0.04, and zinophos [297-97-2] 225, 30, 365, 450, and 0.2, resp. Maretin was fluorescent at room temp. [on SciFinder (R)] 0306-7319 organophosphorus/ pesticide/ fluorometry;/ thin/ layer/ chromatog/ pesticide

185. Brungs, W. A., Mccormick, J. H., Neiheisel, T. W., Spehar, R. L., Stephan, C. E., and Stokes, G. N. (Effects of Pollution on Freshwater Fish. *J. Water pollut. Control fed. 49(6): 1425-1493 1977 (454 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: PESTAB. This is a literature review which covers the broad area of the effects of pollution on freshwater fish. Specific areas covered in the literature survey include: reviews and symposia; water quality; pesticidal pollutants such as insecticides and other pesticides; industrial pollutants, including inorganics, and pulp and paper; domestic pollutants; and radioactive pollutants. Specifically mentioned under insecticide pollutants are DDE, DDT, dieldrin, chlorinated hydrocarbon pesticides, organophosphate and carbamate insecticides, chlordane, toxaphene, heptachlor, heptachlor epoxide, aldrin, mirex, piperonyl butoxide, methoxychlor, trifluralin, lindane, pyrethroids, methyl parathion, carbaryl, parathion, pentachlorophenol, arecoline, 2,4-D, enterobacterin, fenitrothion, dichlorvos, imidan, and malathion. Specific herbicides mentioned include diquat dibromide, potassium endothall, diquat, dinoseb, picloram, azoplant, benomyl, thiophanate-methyl, BCM, dalapon, fenuron, and folmar. Specific pesticides mentioned include rotenone, antimycin, and trifluoromethyl-4-nitrophenol (TFM).

186. Brunner, J. F. and Smith, L. O. (1993). Apple Efficacy of Insecticide Residues on Codling Moth 1991. *Burditt, a. K. Jr. (Ed.). Insecticide & acaricide tests, vol. 18. Ii+405p. Entomological society of america: lanham, maryland, usa.* 0: 362-363.
Chem Codes: Chemical of Concern: PSM Rejection Code: ABSTRACT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT GUTHION PENNCAP IMIDAN SEVIN
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: FRUIT

MESH HEADINGS: NUTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: TREES
MESH HEADINGS: WOOD
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: PLANTS, MEDICINAL
MESH HEADINGS: LEPIDOPTERA
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Trees
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Rosaceae
KEYWORDS: Lepidoptera
LANGUAGE: eng

187. Buckler, Denny R., Mayer, Foster L., Ellersieck, Mark R., and Asfaw, Amha (2005). Acute Toxicity Value Extrapolation with Fish and Aquatic Invertebrates. *Archives of Environmental Contamination and Toxicology* 49: 546-558 .
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:1149028
Chemical Abstracts Number: CAN 144:1373
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 20
Document Type: Journal
Language: written in English.
Index Terms: Crassostrea virginica; Cyprinodon variegatus; Daphnia magna; Databases; Gammarus fasciatus; Ictalurus punctatus; Lepomis macrochirus; Mysidopsis bahia; Oncorhynchus mykiss; Pimephales promelas; Pteronarcys californica; Taxonomy (acute toxicity to fish and aquatic invertebrates extrapolation by software \"Ecol. Risk Anal.\" in database); Toxicity (acute; acute toxicity to fish and aquatic invertebrates extrapolation by software \"Ecol. Risk Anal.\" in database); Invertebrata; Toxicity (aquatic; acute toxicity to fish and aquatic invertebrates extrapolation by software \"Ecol. Risk Anal.\" in database); Toxins Role: ADV (Adverse effect, including toxicity), ANT (Analyte), ANST (Analytical study), BIOL (Biological study) (ichthyotoxins; acute toxicity to fish and aquatic invertebrates extrapolation by software \"Ecol. Risk Anal.\" in database)
CAS Registry Numbers: 50-29-3 (DDT); 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-35-9 (Tributyltin oxide); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Hexachlorocyclohexane); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (DDD); 76-44-8 (Heptachlor); 78-48-8 (DEF); 86-50-

0 (Azinphos-methyl); 87-86-5 (Pentachlorophenol); 115-29-7 (Endosulfan); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 143-50-0 (Chlordecone); 298-00-0 (Methyl parathion); 298-04-4 (Disulfoton); 300-76-5 (Naled); 315-18-4 (Mexacarbate); 330-54-1 (Diuron); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 1071-83-6 (Glyphosate); 1397-94-0 (Antimycin A); 1420-04-8 (Clonitralide); 1582-09-8 (Trifluralin); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2212-67-1 (Molinate); 2921-88-2 (Chlorpyrifos); 7758-98-7 (Copper sulfate); 8001-35-2 (Toxaphene); 8065-48-3 (Demeton); 10108-64-2 (Cadmium chloride); 12789-03-6 (Chlordane); 13171-21-6 (Phosphamidon); 16752-77-5 (Methomyl); 28249-77-6; 51218-45-2 (Metolachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin) Role: ADV (Adverse effect, including toxicity), ANT (Analyte), ANST (Analytical study), BIOL (Biological study) (acute toxicity to fish and aquatic invertebrates extrapolation by software \"Ecol. Risk Anal.\" in database)
Citations: American Society for Testing and Materials; Annual book of ASTM standards 2002, E729-96
Citations: Buckler, D; Evaluation of minimum data requirements for acute toxicity value extrapolation with aquatic organisms 2003, US Environmental Protection Agency report no EPA/600/R-03/104
Citations: Committee on Methods for Toxicity Tests with Aquatic Organisms; Ecological research series 1975, EPA 660/3-75-009
Citations: Mayer, F; Acute toxicity handbook of chemicals to estuarine organisms 1987, US Environmental Protection Agency Report No EPA/600/8-87/017
Citations: Mayer, F; US Fish and Wildlife Service Resource Publ 1986, 160
Citations: Mount, D; Aquatic surrogates 1982, Surrogate species workshop report TR-507-36B, A6-2
Citations: Anon; Species sensitivity distributions in ecotoxicology 2002
Citations: Solomon, K; Environ Toxicol Chem 1996, 15, 31
Citations: Solomon, K; Crop Protection 2000, 19, 649 Assessment of risk posed by an environmental contaminant to an aquatic community requires estn. of both its magnitude of occurrence (exposure) and its ability to cause harm (effects). Our ability to est. effects is often hindered by limited toxicol. information. As a result, resource managers and environmental regulators are often faced with the need to extrapolate across taxonomic groups to protect the more sensitive members of the aquatic community. The goals of this effort were to (1) compile and organize an extensive body of acute toxicity data, (2) characterize the distribution of toxicant sensitivity across taxa and species, and (3) evaluate the utility of toxicity extrapolation methods based upon sensitivity relations among species and chems. Although the anal. encompassed a wide range of toxicants and species, pesticides and freshwater fish and invertebrates were emphasized as a reflection of available data. Although it is obviously desirable to have high-quality acute toxicity values for as many species as possible, the results of this effort allow for better use of available information for predicting the sensitivity of untested species to environmental contaminants. A software program entitled \"Ecol. Risk Anal.\" (ERA) was developed that predicts toxicity values for sensitive members of the aquatic community using species sensitivity distributions. Of several methods evaluated, the ERA program used with min. data sets comprising acute toxicity values for rainbow trout, bluegill, daphnia, and mysids provided the most satisfactory predictions with the least amt. of data. However, if predictions must be made using data for a single species, the most satisfactory results were obtained with extrapolation factors developed for rainbow trout (0.412), bluegill (0.331), or scud (0.041). Although many specific exceptions occur, our results also support the conventional wisdom that invertebrates are generally more sensitive to contaminants than fish are. [on SciFinder (R)] 0090-4341 acute/ toxicity/ fish/ aquatic/ invertebrate/ extrapolation/ software/ database

188. Buncel, Erwin, Van Loon, Gary W., Balakrishnan, Vimal, Chambers, Erin, Churchill, Doreen, Esbata, Abdelhamid, Fang, Wei, Kiepek, Eric, Oketunde, Olukayode, Omakor, Emegbero, and Shirin, Salma (2005). Pesticide pathways. *Canadian Chemical News* 57: 18-20.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:281174
Chemical Abstracts Number: CAN 145:2499
Section Code: 5-0
Section Title: Agrochemical Bioregulators
Document Type: Journal; General Review
Language: written in English.
Index Terms: Pesticides (organophosphorus; pesticide pathways)
CAS Registry Numbers: 122-14-5 (Fenitrothion); 732-11-6 (Phosmet); 13593-03-8 (Quinalphos)
Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (pesticide pathways)
Citations: 1) Balakrishnan, V; Langmuir 2004, 20, 6586
Citations: 2) Van Loon, G; Environmental Chemistry: A Global Perspective 2000
Citations: 3) Pregel, M; Chem Soc Rev 1995, 449
Citations: 4) Blasko, A; Acc Chem Res 1999, 32, 475
Citations: 5) Pehkonen, S; Crit Rev Environ Sci Technol 2002, 32, 17
Citations: 6) Bound, J; Chemosphere 2004, 56, 1143
Citations: 7) Churchill, D; PhD Thesis, Queen's University 2004
Citations: 8) Maguire, R; J Agric Food Chem 1980, 28, 372
Citations: 9) Esbata, A; PhD Thesis, Queen's University 2004
Citations: 10) Fang, W; MSc Thesis, Queen's University 2004 A review. A brief account on the reaction pathways of organophosphorus (OP) pesticides used for crop and forest protection is presented. The majority of OP pesticides can be classified structurally into four groups: phosphate, phosphorothiolate, phosphorothionate, and phosphorodithionate. The reaction of 3 OP pesticides, namely fenitrothion, quinalphos, and phosmet, is particularly described. [on SciFinder (R)] 0823-5228 review/ organophosphorus/ pesticide/ fenitrothion/ quinalphos/ phosmet

189. Burchfield, H. P., Rhoades, J. W., and Wheeler, R. J (1965). Simultaneous and selective detection of phosphorous, sulfur, and halogen in pesticides by microcoulometric gas chromatography. *Journal of Agricultural and Food Chemistry* 13: 511-16.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1966:22644
Chemical Abstracts Number: CAN 64:22644
Section Code: 72
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (chlorine-, P- or S-contg., chromatog. of)
CAS Registry Numbers: 95-95-4; 298-01-1; 309-00-2 (Derived from data in the 7th Collective Formula Index (1962-1966); 50-53-3 (Phenothiazine, 2-chloro-10-[3-(dimethylamino)propyl]-); 56-38-2 (Phosphorothioic acid, O,O-diethyl O-p-nitrophenyl ester); 62-73-7 (Phosphoric acid, 2,2-dichlorovinyl di-Me ester); 72-20-8 (1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-, endo-endo-); 94-75-7 (Acetic acid, (2,4-dichlorophenoxy)-); 97-17-6 (Phosphorothioic acid, O-2,4-dichlorophenyl O,O-diethyl ester); 298-02-2 (Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester); 311-45-5 (Phosphoric acid, diethyl p-nitrophenyl ester); 2104-64-5 (Phosphonothioic acid, phenyl-, O-ethyl O-p-nitrophenyl ester); 7786-34-7 (Crotonic acid, 3-hydroxy-, methyl ester di-Me phosphate) (chromatog. of); 7723-14-0 (Phosphorus); 7782-50-5 (Chlorine) (in pesticides, chromatog. of); 7704-34-9 (Sulfur) (pesticides, chromatog. of); 732-11-6 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with N-(mercaptomethyl)phthalimide); 961-22-8 (Phosphorothioic acid, O,O-dimethyl ester S-ester with 3-(mercaptomethyl)-1,2,3-benzotriazin-4(3H)-one); 7173-84-4 (Phosphorothioic acid, S-[[(p-chlorophenyl)thio]methyl] O,O-diethyl ester) (phosphorescence of); 50-29-3P (Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)-); 72-54-8P (Ethane, 1,1-dichloro-

2,2-bis(p-chlorophenyl)-); 76-44-8P (4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-); 80-33-1P (Benzenesulfonic acid, p-chloro-, p-chlorophenyl ester); 86-50-0P (Phosphorodithioic acid, O,O-dimethyl ester S-ester with 3-(mercaptomethyl)-1,2,3-benzotriazin-4(3H)-one); 121-75-5P (Succinic acid, mercapto-, diethyl ester S-ester with O,O-di-Me phosphorodithioate); 124-96-9P (1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-); 333-41-5P (Phosphorothioic acid, O,O-diethyl O-[2-isopropyl-6-methyl-4-pyrimidinyl) ester); 786-19-6P (Phosphorodithioic acid, S-[[(p-chlorophenyl)thio]methyl] O,O-di-Et ester); 8001-35-2P (Toxaphene) Role: PREP (Preparation) (prepn. of) Pesticides contg. P, S, or Cl are sepd. from one another by gas chromatog. and reduced to PH3, H2S, or HCl, resp., with mol. H at 950 Deg. All 3 gases can be measured simultaneously with a microcoulometric titrn. cell equipped with silver electrodes. Alternatively, PH3 and H2S can be measured selectively by inserting a subtraction unit or gas-solid chromatog. column between the outlet of the redn. tube and the inlet of the titrn. cell. [on SciFinder (R)] 0021-8561

190. Burke, Jerry A. and Holswade, Wendell (1966). Gas chromatographic column for pesticide residue analysis; retention times and response data. *Journal - Association of Official Analytical Chemists* 49: 374-85.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1966:415416
Chemical Abstracts Number: CAN 65:15416
Section Code: 70
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (chromatography of)
Index Terms(2): Acetic acid Delta Keto 153 (chromatography of)
CAS Registry Numbers: 58-89-9; 298-01-1; 309-00-2; 3567-18-8; 7421-93-4 (Derived from data in the 7th Collective Formula Index (1962-1966); 53-19-0 (Ethane, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)-); 56-38-2 (Phosphorothioic acid, O,O-diethyl O-p-nitrophenyl ester); 56-72-4 (Coumarin, 3-chloro-7-hydroxy-4-methyl-, O-ester with O,O-di-Et phosphorothioate); 57-74-9 (4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-); 60-51-5 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with 2-mercapto-N-methylacetamide); 62-73-7 (Phosphoric acid, 2,2-dichlorovinyl di-Me ester); 72-43-5 (Ethane, 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)-); 72-54-8 (Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)-); 72-55-9 (Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)-); 72-56-0 (Ethane, 1,1-dichloro-2,2-bis(p-ethylphenyl)-); 76-06-2 (Methane, trichloronitro-); 78-34-2 (p-Dioxane-2,3-diyl ethyl phosphorodithioate, (C4H6O2S2)(EtO)4P2S2); 80-00-2 (Sulfone, p-chlorophenyl phenyl); 80-06-8 (Benzhydrol, 4,4'-dichloro-a-methyl-); 80-33-1 (Benzenesulfonic acid, p-chloro-, p-chlorophenyl ester); 82-68-8 (Benzene, pentachloronitro-); 86-50-0 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with 3-(mercaptomethyl)-1,2,3-benzotriazin-4(3H)-one); 87-86-5 (Phenol, pentachloro-); 93-78-7 (Acetic acid, (2,4,5-trichlorophenoxy)-, isopropyl ester); 93-79-8 (Acetic acid, (2,4,5-trichlorophenoxy)-, butyl ester); 94-11-1 (Acetic acid, (2,4-dichlorophenoxy)-, isopropyl ester); 94-80-4 (Acetic acid, (2,4-dichlorophenoxy), butyl ester); 95-06-7 (Carbamic acid, diethyldithio-, 2-chloroallyl ester); 101-05-3 (s-Triazine, 2,4-dichloro-6-(o-chloroanilino)-); 101-21-3 (Carbanilic acid, m-chloro-, isopropyl ester); 103-17-3 (Sulfide, p-chlorobenzyl p-chlorophenyl); 106-46-7 (Benzene, p-dichloro-); 106-93-4 (Ethane, 1,2-dibromo-); 107-06-2 (Ethane, 1,2-dichloro-); 107-49-3 (Ethyl pyrophosphate (Et4P2O7); 115-29-7 (5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite); 115-32-2 (Benzhydrol, 4,4'-dichloro-a-(trichloromethyl)-); 116-29-0 (Sulfone, p-chlorophenyl 2,4,5-trichlorophenyl); 116-52-9 (Urea, 1,3-bis(2,2,2-trichloro-1-hydroxyethyl)-); 117-18-0 (Benzene, 1,2,4,5-tetrachloro-3-nitro-); 117-26-0 (Butane, 1,1-bis(p-chlorophenyl)-2-nitro-); 117-27-1 (Propane, 1,1-bis(p-chlorophenyl)-2-nitro-); 117-80-6 (1,4-Naphthoquinone, 2,3-dichloro-); 118-74-1 (Benzene, hexachloro-); 118-75-2 (p-Benzoquinone, tetrachloro-); 121-75-5 (Succinic acid, mercapto-, diethyl ester S-ester with

O,O-di-Me phosphorodithioate); 122-34-9 (s-Triazine, 2-chloro-4,6-bis(ethylamino)-); 124-96-9 (1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-); 133-06-2 (4-Cyclohexene-1,2-dicarboximide, N-[(trichloromethyl)thio]); 133-07-3 (Phthalimide, N-[(trichloromethyl)thio]-); 139-40-2 (s-Triazine, 2-chloro-4,6-bis(isopropylamino)-); 140-57-8 (Sulfurous acid, 2-(p-tert-butylphenoxy)-1-methylethyl 2-chloroethyl ester); 143-50-0 (1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, decachlorooctahydro-); 150-68-5 (Urea, 3-(p-chlorophenyl)-1,1-dimethyl-); 297-78-9 (4,7-Methanoisobenzofuran, 1,3,4,5,6,7,8,8-octachloro-1,3,3a,4,7,7a-hexahydro-); 298-00-0 (Phosphorothioic acid, O,O-dimethyl O-p-nitrophenyl ester); 298-02-2 (Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester); 298-03-3 (Phosphorothioic acid, O,O-diethyl O-[2-(ethylthio)ethyl] ester); 299-84-3 (Phosphorothioic acid, O,O-dimethyl O-2,4,5-trichlorophenyl ester); 301-12-2 (Phosphorothioic acid, S-[2-(ethylsulfinyl)ethyl] O,O-di-Me ester); 311-45-5 (Phosphoric acid, diethyl p-nitrophenyl ester); 319-84-6 (Cyclohexane, 1,2,3,4,5,6-hexachloro-, a-); 319-85-7 (Cyclohexane, 1,2,3,4,5,6-hexachloro-, b-); 319-86-8 (Cyclohexane, 1,2,3,4,5,6-hexachloro-, d-); 330-54-1 (Urea, 3-(3,4-dichlorophenyl)-1,1-dimethyl-); 333-41-5 (Phosphorothioic acid, O,O-diethyl O-[2-isopropyl-6-methyl-4-pyrimidinyl) ester); 465-73-6 (1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, endo-endo-); 510-15-6 (Benzilic acid, 4,4'-dichloro-, ethyl ester); 513-92-8 (Ethylene, tetraiodo-); 555-37-3 (Urea, 1-butyl-3-(3,4-dichlorophenyl)-1-methyl-); 563-12-2 (Ethyl methylene phosphorodithioate, [(EtO)2P(S)-S]2CH2); 594-72-9 (Ethane, 1,1-dichloro-1-nitro-); 608-73-1 (Cyclohexane, 1,2,3,4,5,6-hexachloro-); 732-11-6 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with N-(mercaptomethyl)phthalimide); 786-19-6 (Phosphorodithioic acid, S-[[(p-chlorophenyl)thio]methyl] O,O-di-Et ester); 789-02-6 (Ethane, 1,1,1-trichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)-); 1022-22-6 (Ethylene, 2-chloro-1,1-bis(p-chlorophenyl)-); 1861-32-1 (Terephthalic acid, tetrachloro-, dimethyl ester); 1912-24-9 (s-Triazine, 2-chloro-4-(ethylamino)-6-(isopropylamino)-); 1928-38-7 (Acetic acid, (2,4-dichlorophenoxy), methyl ester); 1928-43-4 (Acetic acid, (2,4-dichlorophenoxy)-, 2-ethylhexyl ester); 1928-57-0 (1-Propanol, 3-(2-butoxyethoxy)-, (2,4-dichlorophenoxy)acetate); 1928-58-1 (1-Propanol, 3-(2-butoxyethoxy)-, (2,4,5-trichlorophenoxy)acetate); 1928-58-1 (Acetic acid, (2,4,5-trichlorophenoxy)-, 3-(2-butoxyethoxy)propyl ester(?); 1929-73-3 (Acetic acid, (2,4-dichlorophenoxy)-, 2-butoxyethyl ester); 2104-64-5 (Phosphonothioic acid, phenyl-, O-ethyl O-p-nitrophenyl ester); 2132-70-9 (Ethylene, 1,1-dichloro-2,2-bis(p-methoxyphenyl)-); 2385-85-5 (1,3,4-Metheno-1H-cyclobuta[cd]pentalene, dodecachlorooctahydro-); 2545-59-7 (Acetic acid, (2,4,5-trichlorophenoxy)-, 2-butoxyethyl ester); 2642-80-0 (Ethane, 2-chloro-1,1-bis(p-chlorophenyl)-); 3424-82-6 (Ethylene, 1,1-dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)-); 5103-71-9 (a-Chlordan); 5103-74-2 (b-Chlordan); 5293-95-8 (Benzhydrol, a-(dichloromethyl)-); 7374-53-0 (s-Triazin-2-ol, 4,6-bis(isopropylamino)-); 7786-34-7 (Crotonic acid, 3-hydroxy-, methyl ester di-Me phosphate); 8001-35-2 (Toxaphene); 8001-50-1 (Strobane); 13312-58-8 (Ethane, 2-chloro-1-(o-chlorophenyl)-1-(p-chlorophenyl)-(?); 14720-90-2 (Ethylene, 2-chloro-1,1-bis(p-ethylphonyl)-); 14835-94-0 (Ethylene, 2-chloro-1-(o-chlorophenyl)-1-(p-chlorophenyl)-); 25168-15-4 (Acetic acid, (2,4,5-trichlorophenoxy)-, isooctyl ester); 25168-26-7 (Isooctyl alcohol, (2,4-dichlorophenoxy)acetate); 25168-26-7 (Acetic acid, (2,4-dichlorophenoxy)-, isooctyl ester); 77287-19-5 (1,2,4-Methenocyclopenta[cd]pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-)   (chromatography of); 94-75-7 (Acetic acid, (2,4-dichlorophenoxy) (esters with Bu ether of polypropylene glycols, chromatography of) Dow Corning 200 and QF-1 were combined as the liquid phase in a gas-liquid chromatographic column to give a different sequence of elution of pesticides than the nonpolar Me silicones now in wide use. The column packing consists of intimately mixed, equal portions of previously coated 80-100 mesh Gas Chrom Q: one portion with 15% QF-1 and the other with 10% DC-200. Operating conditions for a 6 ft. * 4 mm. inner diam. column are: column temp. 200 Deg, injection temp. 225%, and flow rate 120 ml. N/min. Relative retention times and response data for electron capture and microcoulometric systems are tabulated for over 85 pesticide chemicals. [on SciFinder (R)] 0004-5756

191. Burridge, L. E. and Haya, K. (1987). The Use of a Fugacity Model to Assess Risk to Aquatic Animals of Agricultural Pesticides Uses on Prince Edward Island Canada. *Thirteenth annual aquatic toxicity workshop, moncton, new brunswick, canada, november 12-14, 1986. Can tech rep fish aquat sci* 0:

136-140.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM WATER POLLUTION
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: ECOLOGY
MESH HEADINGS: OCEANOGRAPHY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Symposia
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Ecology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

192. Burridge, L. E. and Haya, K (1988). The use of a fugacity model to assess the risk of pesticides to the aquatic environment on Prince Edward Island. *Advances in Environmental Science and Technology* 22: 193-203.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1989:82085
Chemical Abstracts Number: CAN 110:82085
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 4, 12
Document Type: Journal
Language: written in English.
Index Terms: Water pollution (by pesticides, of freshwater and seawater, toxic effects of, assessment of, fugacity model for, on Prince Edward Island); Fish (pesticide toxicity to, assessment of, fugacity model for, on Prince Edward Island); Pesticides (toxicity of, to aquatic environment, assessment of, fugacity model for, on Prince Edward Island); Environment (aquatic, freshwater and marine, pesticide toxicity to, assessment of, fugacity model for, on Prince Edward Island); Animal (aquatic, pesticide toxicity to, assessment of, fugacity model for, on Prince Edward Island)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 85-00-7 (Diquatdibromide); 86-50-0 (Azinphosmethyl); 115-29-7 (Endosulfan); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-34-9 (Simazine); 126-75-0 (Demeton-S); 133-06-2 (Captan); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 624-83-9 (Methylisocyanate); 732-11-6 (Phosmet); 741-58-2; 759-94-4 (EPTC); 950-37-8 (Methidathion); 1114-71-2 (Pebulate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin);

1746-81-2 (Monolinuron); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1982-47-4 (Chloroxuron); 2008-39-1 (2,4-D(Amine); 2039-46-5 (MCPA(amine); 2303-17-5 (Triallate); 2921-88-2 (Chlorpyrifos); 5902-51-2 (Terbacil); 7287-19-6 (Prometryne); 10265-92-6 (Methamidophos); 12789-03-6 (Chlordane); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 30560-19-1 (Acephate); 34014-18-1 (Tebuthiuron); 40843-25-2 (Diclofop); 43121-43-3; 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 56073-10-0 (Brodifacoum); 57837-19-1 (Metalaxyl); 69806-50-4 (Fluazifop butyl) Role: PRP (Properties) (toxicity of, to aquatic environment, assessment of, fugacity model for, on Prince Edward Island) A level I fugacity model was used to assess the relative hazard of 60 pesticides to freshwater and marine environments on Prince Edward Island. Chlorpyrofos had the highest relative hazard index. Phorate and methidathion, which are sold in large amts. yearly, were 2 of the top 10 compds. ranked high by the relative hazard index, in the fresh water model. The model provides a mean for convenient comparison of large data sets. [on SciFinder (R)] 0065-2563 fugacity/ model/ pesticide/ aquatic/ environment;/ model/ pesticide/ toxicity/ aquatic/ environment;/ freshwater/ environment/ pesticide/ fugacity/ model;/ marine/ environment/ pesticide/ fugacity/ model

193. Butler, I. S. and Shaw, C. F. (1976). Vapor phase infrared spectrum and coriolis coupling constants of pentacarbonyl(thiocarbonyl)chromium(0). *Journal of Molecular Structure* 31: 359-365.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Several band contours have been successfully resolved in the high-resolution IR spectrum of pentacarbonyl(thiocarbonyl)chromium(0) vapor at ~312 K. However, PQR separations are only clearly discernible for the three v(CO) fundamentals (v1,v2 and v16). The good agreement between the observed and calculated PR separations of the two a1 v(CO) modes (v1 and v2) verifies the C4v prolate symmetrical top geometry of the molecule. From band shape analyses, the Coriolis coupling constants of the e v(CO) mode (v16) and the e [delta] (CrCO) mode (v17) are estimated to be --0.45 +/- 0.05 and --0.80 +/- 0.15, respectively.
http://www.sciencedirect.com/science/article/B6TGS-44BMVHR-BH/2/9b69064c887c1de1db0c1b40b2e59da6

194. Buxton, R. W., Ja, W. Y., and Mckay, J. C. (Trithion. *In: analytical methods for pesticides and plant growth regulators. Vol. Vi, gas chromatographic analysis. G. Zweig and j. Sherma, eds., Academic press, new york, 1972, p. 519-528.(3 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. Liquid emulsifiable concentrates of Trithion (carbophenothion) are diluted to an appropriate concentration with carbon disulfide and granular formulations and dusts are extracted with carbon disulfide-chlorform-acetone. The Trithion is then analyzed by flame ionization gas chromatography equipped with a 1.5 ft X 0.25 in. o.d. (0.16 in. i.d.) Pyrex glass column packed with 12% SE-30 on 80-100 mesh Gas Chrom Q. Imidan (phosmet) is used as an internal standard. Trithion residues are extracted with aqueous acetonitrile or hexane plus acetonitrile and cleaned up with alumina and Nuchar shakeouts. Trithion and three of the metabolites are then oxidized to the two sulfones, further cleaned up, and separated on a silica gel column. Determination is by gas chromatography using flame photometric detection in the phosphorus mode. The 900 mm X 2 mm i.d. acid-washed and silanized Pyrex column is packed with 10% OV-1 on 100-120 mesh Gas Chrom Q; a second column packed with 12% QF-1 on 100-120 mesh Gas Chrom Q may be used to confirm the identity of the thion sulfone or the oxon sulfone. The detection limit of the method is 0.002 ppm of the thion sulfone and 0.02 ppm of the oxon sulfone; recovery of the thion sulfone ranges from 80 to 100% and recovery of the oxon sulfone ranges from 90 to 120% from fruits and dry beans and from 70 to 90% from oily mataerial.

195. Buxton, R. W., Jawy, and Mckay, J. C. (Prefar. *In: analytical methods for pesticides and plant growth regulators. Vol. Vi, gas chromatographic analysis. G. Zweig and j. Sherma, eds., Academic press,*

new york, 1972, p. 672-678.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. Prefar (bensulide) in formulation samples is determined by gas chromatography with Imidan as internal standard. Liquid emulsifiable concentrates are first diluted with carbon disulfide, while granular formulations and dusts are extracted with carbon disulfide-chloroform-acetone. The recommended instruments is a Hewlett-Packard Model 402 equipped with a hydrogen flame ionization detector and a 1.5 ft X 0.25 in. o.d. Pyrex glass column packed with 3% OV-1 on 60-80 mesh Gas Chrom Q. Off-column injection without an elevated inlet temperature is suggested. Prefar residues in macerated crop samples and water are extracted with benzene, while soil samples are shaken with methanol-water, then with benzene and aqueous solution chloride solution. When required, cleanup may be by Nuchar shakeout, solvent partition, or liquid column chromatography. Analysis is by gas chromatogrphy on a Varian-Aerograph Model 600D equipped with an alkali flame ionization detector and a 300 X 2 mm i.d. Pyrex glass column packed with 10% DC-200 silicone oil on 100-120 mesh Gas Chrom Q. The limit of detection is 0.05 ppm, recoveries generally range from 90 to 105%, and none of the registered phosphorus-containing pesticides have the same retention time as Prefar or its oxygen analog.

196. Byers, R. E. and Smith, A. H Jr (1995). Effect of Temperature on Chemical Apple Thinning Results. *92nd annual meeting of the american society for horticultural science and the 40th annual congress of the canadian society for horticultural science, montreal, quebec, canada, july 30-august 3, 1995. Hortscience* 30: 852-853.
Chem Codes : Chemical of Concern: PSM Rejection Code: ABSTRACT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT MEETING POSTER CULTIVAR GOLDEN DELICIOUS CULTIVAR YORK CULTIVAR RED DELICIOUS PLANT HORTICULTURE NAPHTHALENEACETIC ACID ENDOTHALL REGULAID ACCEL GUTHION CAPTAN CARZOL IMIDAN POLYRAM LORSBAN OMITE LANNATE PESTICIDE HEAT FRUIT CONDITION
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: HEAT
MESH HEADINGS: HEATING
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: TEMPERATURE
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: PLANTS/ANATOMY & HISTOLOGY
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANT GROWTH REGULATORS/PHARMACOLOGY
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: PLANTS/DRUG EFFECTS
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS

MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS, MEDICINAL
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Studies-General
KEYWORDS: External Effects-Temperature as a Primary Variable-Hot (1971-)
KEYWORDS: Plant Physiology
KEYWORDS: Plant Physiology
KEYWORDS: Plant Physiology
KEYWORDS: Plant Physiology
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Pest Control
KEYWORDS: Rosaceae
LANGUAGE: eng

197. Byrem, William C., Armstead, Stephen C., Kobayashi, Shunji, Eckenhoff, Roderic G., and Eckmann, David M. (2006). A guest molecule-host cavity fitting algorithm to mine PDB for small molecule targets. *Biochimica et Biophysica Acta (BBA) - Proteins & Proteomics* 1764: 1320-1324.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Inhaled anesthetic molecule occupancy of a protein internal cavity depends in part on the volumes of the guest molecule and the host site. Current algorithms to determine volume and surface area of cavities in proteins whose structures have been determined and cataloged make no allowance for shape or small degrees of shape adjustment to accommodate a guest. We developed an algorithm to determine spheroid dimensions matching cavity volume and surface area and applied it to screen the cavities of 6,658 nonredundant structures stored in the Protein Data Bank (PDB) for potential targets of halothane (2-bromo-2-chloro-1,1,1-trifluoroethane). Our algorithm determined sizes of prolate and oblate spheroids matching dimensions of each cavity found. If those spheroids could accommodate halothane (radius 2.91 A) as a guest, we determined the packing coefficient. 394,766 total cavities were identified. Of 58,681 cavities satisfying the fit criteria for halothane, 11,902 cavities had packing coefficients in the range of 0.46-0.64. This represents 20.3% of cavities large enough to hold halothane, 3.0% of all cavities processed, and found in 2,432 protein structures. Our algorithm incorporates shape dependence to screen guest-host relationships for potential small molecule occupancy of protein cavities. Proteins with large numbers of such cavities are more likely to be functionally altered by halothane. Cavity/ Host cavity/ Protein cavity/ Spheroid/ Prolate/ Oblate/ Guest/ Guest molecule/ Algorithm/ Halothane/ CASTp http://www.sciencedirect.com/science/article/B73DJ-4KCXF8H-4/2/63807d586b158ec506f78559b07c9461

198. Byrne, Christian, Kamel, Alaa, Vigo, Craig, Ferrario, Joseph, Stafford, Charles, Verdin, Gregory, Siegelman, Frederic, Knizner, Steve, and Hetrick, James (2007). Oxidation of selected organophosphate pesticides during chlorination of drinking water. *Preprints of Extended Abstracts presented at the ACS National Meeting, American Chemical Society, Division of Environmental Chemistry* 47: 674-676.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:261012
Chemical Abstracts Number: CAN 147:15405
Section Code: 61-5
Section Title: Water
Document Type: Journal; Computer Optical Disk
Language: written in English.
Index Terms: Water purification (chlorination; oxidn. of organophosphate pesticides during

chlorination of drinking water); Pesticides (organophosphorus; oxidn. of organophosphate pesticides during chlorination of drinking water)
CAS Registry Numbers: 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 950-37-8 (Methidathion); 3383-96-8 (Temephos); 13071-79-9 (Terbufos); 54593-83-8 (Chlorethoxyfos); 96182-53-5 (Phostebupirim) Role: PEP (Physical, engineering or chemical process), REM (Removal or disposal), PROC (Process) (oxidn. of organophosphate pesticides during chlorination of drinking water)
Citations: Duirk, S; Environ Sci Technol 2006, 40, 546
Citations: Magara, Y; Water Sci Technol 1994, 30(7), 119
Citations: Miltner, R; Jour Amer Water Works Assoc 1989, 81, 43
Citations: Tierney, D; Chlorine degradation of six organophosphorus insecticides and four oxons in a drinking water matrix 2001
Citations: USEPA; Laboratory Study on chlorination of dimethoate and malathion and stability characterizations of their oxygen analogs, omethoate and malaoxon, in chlorinated water, Final Report 2005 Phorate, disulfoton, terbufos, methidathion, bensulide, chlorethoxyphos, phosmet, methyl parathion, phostebupirim, and temephos were evaluated for their potential to undergo oxidn. to their resp. oxons and other oxidn. products in lab. water simulating the chlorination process in drinking water facilities. The exptl. procedures are described and the results are discussed. [on SciFinder (R)] 1524-6434 organophosphate/ pesticide/ oxidn/ drinking/ water/ chlorination

199. Byrne, Frank J., Mello, Kristen, and Toscano, Nick C (2003). Biochemical monitoring of acetylcholinesterase sensitivity to organophosphorus insecticides in glassy-winged sharpshooter Homalodisca coagulata Say (Homoptera: Cicadellidae) and smoke-tree sharpshooter H. lacerta Fowler. *Journal of Economic Entomology* 96: 1849-1854.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:116158
Chemical Abstracts Number: CAN 140:282727
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 7
Document Type: Journal
Language: written in English.
Index Terms: Homalodisca coagulata; Homalodisca lacerta (biochem. monitoring of acetylcholinesterase sensitivity to organophosphorus insecticides in Homalodisca coagulata and H. lacerta); Insecticide resistance (organophosphorus; biochem. monitoring of acetylcholinesterase sensitivity to organophosphorus insecticides in Homalodisca coagulata and H. lacerta)
CAS Registry Numbers: 60-51-5 (Dimethoate); 121-75-5 (Malathion); 300-76-5 (Naled); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyrifos); 9000-81-1 (Acetylcholinesterase); 30560-19-1 (Acephate) Role: BSU (Biological study, unclassified), BIOL (Biological study) (biochem. monitoring of acetylcholinesterase sensitivity to organophosphorus insecticides in Homalodisca coagulata and H. lacerta)
Citations: Akey, D; Calif Agric 2001, 55(4), 22
Citations: Aldridge, W; Enzyme inhibitors as substrates:interaction of esterases with esters of organophosphorus and carbamic acids 1972
Citations: Bethke, J; J Econ Entomol 2001, 94, 1031
Citations: Blua, M; Calif Agric 1999, 53, 22
Citations: Blua, M; J Econ Entomol 2001, 94, 1506
Citations: Byrne, F; Pestic Biochem Physiol 1993, 45, 34
Citations: Byrne, F; Pestic Biochem Physiol 1997, 58, 119
Citations: Byrne, F; J Econ Entomol 2001, 94, 524
Citations: Byrne, F; Pest Manag Sci 2000, 56, 867
Citations: Costa, H; Hortic Science 2000, 35, 1265

Citations: Devonshire, A; Pestic Biochem Physiol 1984, 21, 336
Citations: Devonshire, A; Pestic Biochem Physiol 1975, 5, 101
Citations: Ellman, G; Biochem Pharmacol 1961, 7, 88
Citations: Ffrench-Constant, R; Med Vet Entomol 1989, 3, 9
Citations: Ffrench-Constant, R; Annu Rev Entomol 2000, 48, 449
Citations: Gunning, R; Pestic Biochem Physiol 1998, 62, 147
Citations: Henry, M; Investigation of a new strain of Xylella fastidiosa and insect vectors as they affect California's agriculture and ornamentals industries:technical report to the university of California Division of Agricultural and Natural Sciences 1997
Citations: Hix, R; Calif Agric 2001, 55(4), 19
Citations: Leatherbarrow, R; Enzfitter:a non-linear regression data analysis program for the IBM PC (and true compatibles) 1987
Citations: Martinez-Torres, D; Insect Mol Biol 1999, 8, 339
Citations: Moores, G; Bull Entomol Res 1988, 78, 537
Citations: Morin, S; Insect Biochem Mol Biol 2002, 32, 1781
Citations: Perring, T; Calif Agric 2001, 55(4), 13
Citations: Purcell, A; Annu Rev Phytopathol 1996, 34, 131
Citations: Smissaert, H; Biochem Pharmacol 1975, 24, 1043
Citations: Sorensen, S; Pan-Pac Entomol 1996, 72, 160 The glassy-winged sharpshooter Homalodisca coagulata Say (Homoptera: Cicadellidae) is a new pest to California agriculture. It is the principal vector of several plant pathogenic diseases, particularly Pierce's Disease in grapevines, and oleander leaf scorch. A microplate-based assay is described that measures the sensitivity of acetylcholinesterase (AChE) activity to inhibition by organophosphorus (OP) insecticides in this important pest. The technique provides users with an accurate measure of the efficacy of OP binding to this target site, and is a valuable tool for monitoring field populations of the insect to det. whether the use of OP insecticides has selected for resistant individuals. The technique will also measure AChE sensitivity in the smoke-tree sharpshooter, H. lacerta Fowler. This species is native to California and is regarded only as a minor pest. Both inhibition and kinetic measurements for the AChE enzymes in these sharpshooters demonstrate the close phylogenetic relationships between the two species. [on SciFinder (R)] 0022-0493
acetylcholinesterase/ sensitivity/ organophosphorus/ insecticide/ Homalodisca/ bioassay

200. Cabanillas, C. G. and Bushway, R. (1991). Analysis of Phosmet and Azinphos-Methyl in Apples by High-Performance Liquid Chromatography. *J liq chromatogr* 14: 3603-3614.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A high-performance liquid chromatography (HPLC) method has been developed to analyze two organophosphate insecticides (phosmet and azinphosmethyl) in apples. The procedure includes a novel extraction whereby whole apples are sonicated for 2 min in 100 mL of MeOH to remove the pesticides. Reversed-phase HPLC separation was accomplished with an Ultremax C18 column and acetonitrile:methanol:water as the eluent. Detection was at 224 nm for phosmet and 300 nm for azinophos-methyl. For both pesticides the limit of detection was 0.5 ppb and the linearity was from 1 to 405 ng injected. Average recoveries were 80% for phosmet and 86% for azinphos-methyl. Thirteen apple varieties comprising 240 apples were analyzed from supermarkets and roadside stands for phosmet (amount found ranged from none detected tp 1244 ppb) and azinphos-methyl (amoung found ranged from none detected to 388 ppb). Confirmation of phosmet and azinphos-methyl was made by UV spectral scans.
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: FOOD ANALYSIS

MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: FRUIT
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS, MEDICINAL
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-Foods
KEYWORDS: Horticulture-Small Fruits
KEYWORDS: Pest Control
KEYWORDS: Rosaceae
LANGUAGE: eng

201. Cabral, R., Hasegawa, R., Hakoi, K., Hoshiya, T., and Ito, N. (A Novel Bioassay for Carcinogenicity of Agrochemicals. *Strauss, m. S. (Ed.). Unity in diversity; 1995 aaas annual meeting and science innovation exposition: the 161st national meeting of the american association for the advancement of science, atlanta, georgia, usa, february 16-21, 1995. Pagination varies american association for the advancement of science (aaas): washington, dc, usa.; 0 (0). 1995. Abstracts 140.*
Chem Codes: Chemical of Concern: PSM Rejection Code: ABSTRACT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT MEETING POSTER RAT CAPTAN DAMINOZIDE PHOSMET PROPINEB FOLPET
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: MURIDAE
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: Agronomy-General
KEYWORDS: Pest Control
KEYWORDS: Muridae
LANGUAGE: eng

202. Cabral, R., Hoshiya, T., Hakoi, K., Hasegawa, R., Fukushima, S., and Ito, N. (1990). Study of the Potential Carcinogenicity of Pesticides Using a Rapid in-Vivo Bioassay. *Laux, w. Mitteilungen aus der*

biologischen bundesanstalt fuer land- und forstwirtschaft berlin-dahlem, heft 266. 47. Deutsche pflanzenschutz-tagung; (communications from the federal biological institute for agriculture and forestry berlin-dahlem, no. 266. Forty-seventh german plant protection convention); berlin, germany, october 1-5, 1990. Xxxix+515p. Kommissionsverlag paul parey: berlin, germany. Illus. Paper. Isbn 3-489-26600-5. 120.
Chem Codes: Chemical of Concern: PSM Rejection Code: ABSTRACT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RAT PRENEOPLASTIC LIVER LESIONS CHINOMETHIONATE PHOSMET PROPICONAZOLE CAPTAN PROCHLORAZ BENOMYL DAMINOZIDE FOLPET
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: DIGESTIVE SYSTEM DISEASES/PATHOLOGY
MESH HEADINGS: DIGESTIVE SYSTEM/PATHOLOGY
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: MURIDAE
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Studies-General
KEYWORDS: Digestive System-Pathology
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: Pest Control
KEYWORDS: Muridae
LANGUAGE: eng

203. Cairns, Thomas, Chiu, K. S., and Siegmund, Emil (1992). Methane chemical ionization of pesticides by ion-trap technology: spectral characteristics and data precision. *Rapid Communications in Mass Spectrometry* 6: 331-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:402637
Chemical Abstracts Number: CAN 117:2637
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, by gas chromatog.-mass spectroscopy, methane chem. ionization in); Mass spectrometry (gas chromatog. combined with, of pesticides, methane chem. ionization in); Chromatography (mass spectrometry combined with, of pesticides, methane chem. ionization in)
CAS Registry Numbers: 50-29-3; 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-55-9; 76-44-8 (Heptachlor); 85-41-6 (Phthalimide); 86-50-0 (Azinphosmethyl); 101-21-3; 106-46-7 (p-Dichlorobenzene); 108-70-3 (1,3,5-Trichlorobenzene); 133-06-2 (Captan); 133-07-3 (Folpet); 143-50-0 (Chlordecone); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 338-45-4 (b-Mevinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 959-98-8 (Endosulfan I); 1031-07-8 (Endosulfan sulfate); 1085-98-9; 1113-02-6 (Omethoate); 1146-65-2 (Naphthalene-d8); 1517-22-2 (Phenanthrene-d10); 1520-96-3 (Perylene-d12); 1719-03-5 (Chrysene-d12); 1861-32-1 (Dacthal); 2385-85-5 (Mirex); 2921-88-2 (Chlorpyrifos); 3424-82-6; 5103-71-9 (cis-Chlordane); 10265-92-6 (Methamidophos); 14720-90-2 (Perthane olefin); 15067-26-2; 27813-21-4 (Tetrahydrophthalimide); 33213-65-9 (Endosulfan II);

39765-80-5 (trans-Nonachlor); 52918-63-5 (Deltamethrin); 59756-60-4 (Fluridone); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 68103-99-1 Role: ANT (Analyte), ANST (Analytical study) (detn. of, by gas chromatog.-mass spectrometry, methane chem. ionization in) Examn. of the methane chem. ionization (CI) spectra produced in an ion trap under automatic reaction control has revealed a strong concn. dependence phenomenon even at trace levels (ppm). The spectra produced during the elution profile of various pesticides via capillary gas-chromatog. introduction have indicated a large percentage of an electron ionization (EI) spectral component superimposed on the CI spectrum. This duplicity of several character can be an important asset for confirmation of presence and it does not present a problem of obtaining acceptable precision and accuracy on quantification of pesticide residues. [on SciFinder (R)] 0951-4198 pesticide/ detn/ methane/ chem/ ionization

204. Cairns, Thomas, Chiu, Kin S., Navarro, David, and Siegmund, Emil (1993). Multiresidue pesticide analysis by ion-trap mass spectrometry. *Rapid Communications in Mass Spectrometry* 7: 971-88.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:53003
Chemical Abstracts Number: CAN 120:53003
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in food by ion-trap mass spectrometry); Food analysis; Strawberry; Tomato; Watermelon (pesticide detn. in, by ion-trap mass spectrometry); Mass spectrometry (ion-trapping, pesticide detn. in food by)
CAS Registry Numbers: 50-29-3 (p,p'-DDT); 52-85-7 (Famphur); 53-19-0 (o,p'-TDE); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (p,p'-Methoxychlor); 72-54-8 (p,p'-TDE); 72-55-9 (p,p'-DDE); 72-56-0 (Perthane); 76-44-8 (Heptachlor); 82-68-8 (PCNB); 85-29-0 (o,p'-Dichlorobenzophenone); 85-41-6 (Phthalimide); 86-50-0 (Azinphosmethyl); 87-47-8 (Pyrolan); 90-98-2 (p,p'-Dichlorobenzophenone); 91-53-2 (Ethoxyquin); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 103-17-3 (Chlorbenside); 106-46-7 (p-Dichlorobenzene); 108-70-3 (1,3,5-Trichlorobenzene); 113-48-4 (MGK 264); 114-26-1 (Propoxur); 115-32-2 (p,p'-Kelthane); 115-90-2 (Fensulfothion); 115-93-5 (Cythioate); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-34-9D (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 126-73-8 (Tributyl phosphate); 126-75-0 (Demeton-S); 132-66-1 (Naptalam); 133-06-2 (Captan); 133-07-3 (Folpet); 139-40-2 (Propazine); 141-66-2 (Dicrotophos); 143-50-0 (Chlordecone); 148-79-8 (Thiabendazole); 152-16-9 (Schradan); 298-00-0 (Methyl parathion); 298-01-1 (a-Mevinphos); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 314-40-9 (Bromacil); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 330-55-2 (Linuron); 333-41-5 (Diazinon); 338-45-4 (b-Mevinphos); 527-20-8 (Pentachloroaniline); 563-12-2 (Ethion); 644-64-4 (Dimetilan); 671-04-5 (Carbanolate); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6 (o,p'-DDT); 834-12-8 (Ametryne); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 973-21-7 (Dinobuton); 1022-22-6 (p,p'-TDE olefin); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1079-33-0 (Mobam); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1698-60-8 (Pyrazon); 1825-19-0 (Pentachlorothioanisole); 1836-75-5 (Nitrofen); 1836-77-7 (Chlornitrofen); 1861-32-1 (Dacthal); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-18-9 (Swep); 1929-77-7 (Vernolate); 1966-58-1 (Dichlormate); 1982-47-4 (Chloroxuron); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2164-09-2 (Chloranocryl); 2179-25-1 (Methiocarb sulfone); 2212-67-1 (Molinate); 2227-13-6 (Tetrasul); 2275-18-5 (Prothoate); 2303-16-4 (Diallate); 2303-

17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2439-01-2 (Oxythioquinox); 2463-84-5 (Dicapthon); 2496-91-5 (Demeton S-sulfone); 2497-06-5 (Disulfoton sulfone); 2588-04-7 (Phorate sulfone); 2588-05-8 (Phoratoxon sulfoxide); 2593-15-9 (Ethazol); 2595-54-2 (Mecarbam); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2635-10-1 (Methiocarb sulfoxide); 2655-14-3 (XMC); 2675-77-6 (Chloroneb); 2921-88-2 (Chlorpyrifos); 3424-82-6 (o,p'-DDE); 3689-24-5 (Sulfotep); 3761-41-9 (Fenthion sulfoxide); 3761-42-0 (Fenthion sulfone); 3766-81-2 (Fenobucarb); 4726-14-1 (Nitralin); 4824-78-6 (Bromophos-ethyl); 4891-54-7 (Demeton-O sulfone); 5103-71-9 (cis-Chlordane); 5103-73-1 (cis-Nonachlor); 5131-24-8 (Ditalimphos); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5286-73-7; 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 10265-92-6 (Methamidophos); 10606-46-9; 12407-86-2 (Landrin); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprop); 13360-45-7 (Maloran); 13457-18-6 (Pyrazophos); 13684-56-5 (Desmedipham); 14720-90-2 (Perthane olefin); 14816-18-3 (Phoxim); 15299-99-7 (Napropamide); 17356-42-2 (Ethion monoxon); 18181-80-1 (Bromopropylate); 18530-56-8 (Norea); 18708-86-6 (a-Chlorfenvinphos); 18708-87-7 (b-Chlorfenvinphos); 20925-85-3 (Pentachlorobenzonitrile); 21087-64-9 (Metribuzin); 21564-17-0 (TCMTB); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22936-86-3 (Cyprazine); 23103-98-2 (Pirimicarb); 23505-41-1 (Pirimifos-ethyl); 23950-58-5 (Pronamide); 24017-47-8 (Triazophos); 25900-20-3; 26399-36-0 (Profluralin); 27304-13-8 (Octachlor epoxide); 27813-21-4 (Tetrahydrophthalimide); 29091-05-2 (Dinitramine); 29185-21-5; 29820-16-4 (Hydroxydiazinon); 30560-19-1 (Acephate); 30614-22-3; 30667-99-3 (o,p'-Methoxychlor); 31218-83-4 (Propetamphos); 31972-44-8 (Fenamiphos sulfone); 32809-16-8 (Procymidone); 32889-48-8 (Procyazine); 33089-61-1 (Amitraz); 33213-65-9 (Endosulfan II); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34643-46-4 (Prothiophos); 35554-44-0 (Imazalil); 35850-29-4 (Tetrasul sulfoxide); 36734-19-7 (Iprodione); 38727-55-8 (Antor); 39515-41-8 (Fenpropathrin); 39765-80-5 (trans-Nonachlor); 41198-08-7 (Profenofos); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51338-27-3 (Diclofop-methyl); 51630-58-1 (Fenvalerate); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 56534-02-2 (a-Chlordene); 57837-19-1 (Metalaxyl); 59756-60-4 (Fluridone); 60168-88-9 (Fenarimol); 60207-93-4 (Etaconazole); 60238-56-4 (Chlorthiophos); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 64529-56-2 (Ethiozin); 64902-72-3 (Chlorsulfuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 66441-23-4 (Fenoxaprop-ethyl); 67375-30-8 (a-Cypermethrin); 72490-01-8 (Fenoxycarb); 77501-60-1 (Fluoroglycofen); 81777-89-1 (Clomazone); 85509-19-9 (Flusilazole); 88671-89-0 (Myclobutanil); 95465-99-9 (Cadusafos) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in food by ion-trap mass spectrometry) The ion trap is able to detect and quantify 245 target pesticides extd. via the Luke method while providing concurrent confirmation of presence via full scan data at the sub-ppm level. The precision and accuracy of the anal. approach was ?15% relative std. deviation. A comparison study of >100 incurred residues analyzed by the ion trap and gas chromatog. with an array of element-selective detectors indicated that sample clean-up will probably be necessary before quantification is acceptable for all target compds. The data obtained using a combination of gas chromatog. and mass spectrometry and presented for 250 target pesticides constitutes the basic information required to duplicate and extend the methodol. [on SciFinder (R)] 0951-4198 pesticide/ detn/ food/ mass/ spectrometry;/ ion/ trap/ pesticide/ detn/ food

205. Callanan, Michael J., O'Toole, Paul W., Lubbers, Mark W., and Polzin, Kayla M. (2001). Examination of lactococcal bacteriophage c2 DNA replication using two-dimensional agarose gel electrophoresis. *Gene* 278: 101-106.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: VIRUS.

The ori locus of the prolate-headed lactococcal bacteriophage c2 supports plasmid replication in Lactococcus lactis in the absence of phage infection. To determine whether phage c2 DNA replication is initiated at the ori locus in vivo and to investigate the mechanism of phage DNA replication, replicating intermediates of phage c2 were analyzed using neutral/neutral two-dimensional agarose gel electrophoresis (2D). The 2D data revealed that c2 replicates via a theta

mechanism and localized the initiation of theta replication to the ori region of the c2 genome.
Bacteriophage/ Lactococcus/ Origin of replication/ Theta replication
http://www.sciencedirect.com/science/article/B6T39-44CMXX2-7/2/5bd9834d51d51582376d5576d598ca94

206. Camel, V. (1997). The Determination of Pesticide Residues and Metabolites Using Supercritical Fluid Extraction. *Trends Anal.Chem.* 16: 351-369.
Chem Codes: Chemical of Concern: MXC,PN,BPCB,HCB,DS,DMT,AZ,CMPH,FNT,FMP,PRN,CPY,ETN,MP,PIRM,MTM,MVP,EP,PRT,OMT,TBO,PPHD,MDT,PSM,FNF,CTN,DCPA,ES,DDE,DDT,PSM Rejection Code: REFS CHECKED/REVIEW.

207. Camel, V. (1997). The Determination of Pesticide Residues and Metabolites Using Supercritical Fluid Extraction. *Trends in analytical chemistry* 16: 351-369.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Supercritical fluid extraction (SFE) has become a promising alternative technique in the recent years for solid and semi-solid matrices, due to its advantages over classical solvent extraction (especially Soxhlet extraction). This paper briefly presents the strategy for the development of an SFE method, before reviewing the main results concerning pesticides and their metabolites in different matrices.
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Toxicology-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

208. Campbell, Erin R. and Richter, Bruce E (1992). Thermionic ionization detection for supercritical fluid chromatography. *LC-GC* 10: 40, 42, 44-5.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:207116
Chemical Abstracts Number: CAN 116:207116
Section Code: 80-5
Section Title: Organic Analytical Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (anal. of mixt. of, thermionic ionization detection for supercrit. fluid

chromatog.); Feed analysis; Soil analysis (by supercrit. fluid chromatog. and thermionic ionization detection); Chromatography (thermionic ionization detection in); Chromatographs (detectors, thermionic ionization, for nitrogen- and phosphorus-contg. compds.); Gasoline Role: ANT (Analyte), ANST (Analytical study) (lead-free, anal. of, thermionic ionization detection for supercrit. fluid chromatog.)
CAS Registry Numbers: 55-38-9 (Fenthion) Role: ANT (Analyte), ANST (Analytical study) (detection of, in feed sample, thermionic ionization detection for supercrit. fluid chromatog.); 9003-07-0 (Polypropylene) Role: ANT (Analyte), ANST (Analytical study) (detection of, in mixt. by supercrit. fluid chromatog. and thermionic ionization detection); 56-38-2 (Parathion); 121-75-5 (Malathion); 732-11-6 (Phosmet); 16752-77-5 (Methomyl) Role: ANT (Analyte), ANST (Analytical study) (detection of, in pesticide mixt., thermionic ionization detection for supercrit. fluid chromatog.); 63-25-2; 112-40-3 (Dodecane); 7723-14-0D (Phosphorus); 7727-37-9D (Nitrogen) Role: ANT (Analyte), ANST (Analytical study) (detection of, thermionic ionization detection for supercrit. fluid chromatog.) The application of thermionic ionization detection for supercrit. fluid chromatog. was demonstrated. The detector was selective and sensitive for the compds. contg. nitrogen and phosphorus atoms. [on SciFinder (R)] 0888-9090 thermionic/ ionization/ detector/ supercrit/ fluid/ chromatog;/ nitrogen/ compd/ detection/ thermionic/ ionization/ SFC;/ phosphorus/ compd/ detection/ thermionic/ ionization/ SFC

209. Campbell, G. S. (1986). Extinction coefficients for radiation in plant canopies calculated using an ellipsoidal inclination angle distribution. *Agricultural and Forest Meteorology* 36: 317-321.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Equations used to calculate extinction coefficients for radiation in plant canopies tend either to be too simple to describe canopy radiation accurately, or too complex for convenient computation. An equation has been derived using the assumption that the angular distribution of leaf area in a canopy is similar to the distribution of area on the surface of a prolate or oblate spheroid. This is therefore a generalization of the spherical leaf angle distribution which is frequently used for plant canopies. Simulated leaf angle distributions generated using this model closely approximate measured leaf angle distributions for plant canopies. Extinction coefficients calculated from the model give values which are virtually identical to those calculated using six leaf angle classes.
http://www.sciencedirect.com/science/article/B6V8W-4894MD8-3/2/1a550c728e946a4a4c3c34a917671145

210. Campbell, William R. and Omilinsky, Barry A (20010719). Nonaqueous compositions for administration of pharmaceuticals or agrochemicals or biocides. 25 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:525899
Chemical Abstracts Number: CAN 135:127192
Section Code: 63-6
Section Title: Pharmaceuticals
CA Section Cross-References: 5, 18
Coden: PIXXD2
Index Terms: Essential oils Role: AGR (Agricultural use), MOA (Modifier or additive use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (anise; nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); Essential oils Role: AGR (Agricultural use), MOA (Modifier or additive use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (cedarwood; nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); Essential oils Role: AGR (Agricultural use), MOA (Modifier or additive use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (citronella; nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); Essential oils Role: AGR (Agricultural use), MOA (Modifier or additive use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (eucalyptus; nonaq. compns. for administration of pharmaceuticals or

agrochems. or biocides); Fats and Glyceridic oils Role: AGR (Agricultural use), MOA (Modifier or additive use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (margosa; nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); Agrochemicals; Emulsifying agents; Parasiticides; Pesticides (nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); Canola oil; Castor oil; Jojoba oil; Polysiloxanes Role: AGR (Agricultural use), MOA (Modifier or additive use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); Essential oils Role: AGR (Agricultural use), MOA (Modifier or additive use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (orange, sweet; nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); Alcohols Role: AGR (Agricultural use), MOA (Modifier or additive use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (polyhydric; nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); Drug delivery systems (solns.; nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides)

CAS Registry Numbers: 60-51-5 (Dimethoate); 61-82-5 (Amitrole); 63-25-2 (Carbaryl); 65-85-0D (Benzoic acid); 72-43-5 (Methoxychlor); 77-06-5 (Gibberellic acid); 78-70-6 (Linalool); 84-65-1 (Anthraquinone); 85-00-7 (Diquat); 93-65-2 (Mecoprop); 97-53-0 (Eugenol); 104-55-2 (Cinnamaldehyde); 106-24-1 (Geraniol); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 120-72-9 (Indole); 121-75-5 (Malathion); 122-34-9 (Simazine); 122-59-8D (Phenoxyacetic acid); 133-06-2 (Captan); 134-20-3 (Methyl anthranilate); 148-79-8 (Thiabendazole); 301-12-2 (Oxydemeton methyl); 314-40-9 (Bromacil); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 404-86-4 (Capsaicin); 709-98-8 (Propanil); 732-11-6 (Phosmet); 834-12-8 (Ametryn); 950-37-8 (Methidathion); 1071-83-6 (Glyphosate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1689-84-5 (Bromoxynil); 1702-17-6 (Clopyralid); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-02-1 (Picloram); 2593-15-9 (Etridiazole); 2921-88-2 (Chlorpyrifos); 4685-14-7 (Paraquat); 5234-68-4 (Carboxin); 5902-51-2 (Terbacil); 8018-01-7 (Mancozeb); 10004-44-1 (Hymexazol); 11141-17-6 (Azadirachtin); 13356-08-6 (Fenbutatin oxide); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 17804-35-2 (Benomyl); 19044-88-3 (Oryzalin); 20354-26-1 (Methazole); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23422-53-9 (Formetanate hydrochloride); 23564-05-8 (Thiophanate methyl); 25057-89-0 (Bentazon); 27314-13-2 (Norflurazon); 29091-21-2 (Prodiamine); 30560-19-1 (Acephate); 34014-18-1 (Tebuthiuron); 35367-38-5 (Diflubenzuron); 35554-44-0 (Imazalil); 37324-45-1 (Dihydroazadirachtin); 38669-41-9D (Phenoxypropionic acid); 38669-42-0D; 40487-42-1 (Pendimethalin); 42509-80-8 (Isazofos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Bayleton); 50594-66-6 (Acifluorfen); 51235-04-2 (Hexazinone); 51276-47-2 (Glufosinate); 51338-27-3 (Diclofop methyl); 52645-53-1 (Permethrin); 55219-65-3 (Triadimenol); 55335-06-3 (Triclopyr); 55512-33-9 (Pyridate); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 59756-60-4 (Fluridone); 60207-90-1 (Propiconazole); 64902-72-3 (Chlorsulfuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66441-23-4 (Fenoxaprop ethyl); 68359-37-5 (Cyfluthrin); 69377-81-7 (Fluroxypyr); 69806-40-2 (Haloxyfop methyl); 72178-02-0 (Fomesafen); 74051-80-2 (Sethoxydim); 74115-24-5 (Clofentezine); 74223-56-6 (Sulfometuron); 76578-12-6 (Quizalofop); 77501-63-4 (Lactofen); 77732-09-3 (Oxadixyl); 78587-05-0 (Hexythiazox); 79241-46-6; 79277-67-1 (Thifensulfuron); 79510-48-8 (Metsulfuron); 79538-32-2 (Tefluthrin); 81334-34-1 (Imazapyr); 81335-37-7 (Imazaquin); 81335-77-5 (Imazethapyr); 81777-89-1 (Clomazone); 82097-50-5 (Triasulfuron); 82558-50-7 (Isoxaben); 82657-04-3 (Bifenthrin); 99129-21-2 (Clethodim); 99283-00-8 (Chlorimuron); 99283-01-9 (Bensulfuron); 100728-84-5 (Imazamethabenz); 106040-48-6 (Tribenuron); 111991-09-4 (Nicosulfuron); 112410-23-8 (Tebufenozide); 113036-87-6 (Primisulfuron); 119446-68-3 (Difenoconazole); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 138261-41-3 (Imidacloprid) Role: AGR (Agricultural use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); 70288-86-7 (Ivermectin) Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); 57-55-6 (Propylene glycol); 100-51-6 (Benzenemethanol); 872-50-4 (N-Methylpyrrolidone); 9005-64-5 (polysorbate 20); 9005-65-6

(polysorbate 80); 9005-70-3 (polysorbate85) Role: MOA (Modifier or additive use), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides); 57-62-5 (Chlortetracycline); 57-68-1 (Sulfamethazine); 59-40-5 (Sulfaquinoxaline); 60-54-8 (Tetracycline); 79-57-2 (Oxytetracycline); 110-85-0 (Piperazine); 114-07-8 (Erythromycin); 121-25-5 (Amprolium); 122-11-2 (Sulfadimethoxine); 154-21-2 (Lincomycin); 1401-69-0 (Tylosin); 1404-04-2 (Neomycin); 1405-87-4 (Bacitracin); 1672-91-9 (Sulfachlorpyrazine); 1695-77-8 (Spectinomycin); 51570-36-6 (Milbemycin); 71751-41-2 (Abamectin); 73989-17-0 (Avermectin); 98105-99-8 (Sarafloxacin); 117704-25-3 (Doramectin) Role: THU (Therapeutic use), BIOL (Biological study), USES (Uses) (nonaq. compns. for administration of pharmaceuticals or agrochems. or biocides)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2000-483084
Priority Application Date: 20000114 The present invention provides non-aq. compns. which comprise a pharmacol. or biol. active compd., an emulsifier, a polyol, and benzyl alc. The compns. are useful for administering the pharmacol. or biol. active compds. which they contain to animals, plants, or ground surfaces. In preferred embodiments, the pharmacol. or biol. active compds. may be water-insol. or water-labile. The compns. of the present invention allow these compds. to be solubilized and conveniently transported to a site of application in a non-aq. form, and then dild. in an aq. soln. In a particularly preferred embodiment, the compd. is ivermectin and is administered in the drinking water of poultry. The compns. of the present invention may also contain multiple pharmacol. or biol. active compds. which are administrated simultaneously. The present invention also provides methods of administering the compds. In the most preferred embodiment, the compds. may be administered in the drinking water of animals to be treated with the pharmacol. or biol. active compd. In other embodiments, the compns. may be topically applied to the animals or plants to be treated, or sprayed onto plants, animals, or a ground surface to be treated with the active compds. A nonaq. formulation of ivermectin was prepd. and dild. into the drinking water of male turkeys. The formulation was effective in completely eliminating any visible signs of roundworm infestation. [on SciFinder (R)] A61K009-00. nonaq/ compn/ pharmaceutical/ biocide

211. Canivet, V. and Gibert, J. (2002). Sensitivity of Epigean and Hypogean Freshwater Macroinvertebrates to Complex Mixtures. Part I: Laboratory Experiments. *Chemosphere* 46: 999-1009.
Rejection Code: EFFLUENT/MIXTURE.

212. Carballeira, A. and Reigosa, M. J. (1999). Effects of Natural Leachates of Acacia Dealbata Link in Galicia (Nw Spain). *Botanical bulletin of academia sinica (taipei)* 40: 87-92.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A systematic collection of throughfall (rain passing through the canopies), stemflow (rain flowing over the stems), and soil percolates was carried out in a Acacia dealbata plantation during one year, and its allelopathic capacity was biotested using Lactuca sativa L. var. Great Lakes. The results showed an allelopathic effect related to flowers: Germination of L. sativa was inhibited 30% by throughfall, 60% by stemflow, and 75% by soil percolates during the blossoming of A. dealbata, while radicle growth of L. sativa was inhibited 23%, 33%, and 48% by the same solutions. Climatic factors, particularly rainfall some days before, were also important. The three types of samples showed significant toxicities during some periods of the year, particularly percolates, which retained toxicity for a longer time, due perhaps to the decomposition of flowers fallen on the around.

MESH HEADINGS: ECOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/CHEMISTRY
MESH HEADINGS: PLANTS
MESH HEADINGS: LEGUMES
KEYWORDS: Ecology
KEYWORDS: Plant Physiology
KEYWORDS: Plant Physiology
KEYWORDS: Compositae
KEYWORDS: Leguminosae
LANGUAGE: eng

213. Carine, M. A. and Scotland, R. W. (1998). Pollen Morphology of Strobilanthes Blume (Acanthaceae) From Southern India and Sri Lanka. *Review of Palaeobotany and Palynology, 103 (3-4) pp. 143-165, 1998*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0034-6667
Descriptors: Pollen morphology
Descriptors: Systematics
Descriptors: Acanthaceae
Descriptors: Strobilanthes
Descriptors: India
Descriptors: Sri Lanka
Abstract: Acetolysed pollen from 66 of 74 species of Strobilanthes Blume from southern India and Sri Lanka were examined using light and scanning electron microscopy. Pollen descriptions, scanning electron micrographs, and a key are provided. Two shape classes have been distinguished, spheroidal and ellipsoid (prolate /subprolate). All ellipsoid pollen grains are tricolporate and have pseudocolpi. Six ellipsoid pollen types have been recognised based primarily on differences in rectal ornamentation. Sixteen spheroidal pollen types have been recognised based on variation in number, distribution and form of apertures, and on sexine structure. The current study has shown that variation in pollen morphology is much greater than was previously described, and that the pollen morphology of many species was incorrectly described by Bremekamp (1944). Bremekamp split Strobilanthes s.l. into 54 genera, and made extensive use of pollen morphological characters for generic delimitation. The results of the current study highlight fundamental problems with Bremekamp's classification and demonstrate the necessity of very extensive sampling and rigorous empirical investigations to resolve problems of generic delimitation in large, species rich groups.
31 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

214. Carlsen, Lars (2004). Giving molecules an identity. On the interplay between QSARs and partial order ranking. *Molecules* 9: 1010-1018.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Database: CAPLUS
Accession Number: AN 2005:93150
Chemical Abstracts Number: CAN 143:54578
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 9
Document Type: Journal; Online Computer File
Language: written in English.
Index Terms: Databases; Ecotoxicity; Environmental analysis; Environmental pollution; Insecticides; QSAR; Solubility; Toxicants; Toxicity (giving mols. an identity and the interplay between QSARs and partial order ranking); Organic compounds Role: ADV (Adverse effect, including toxicity), POL (Pollutant), PRP (Properties), BIOL (Biological study), OCCU (Occurrence) (giving mols. an identity and the interplay between QSARs and partial order ranking)
CAS Registry Numbers: 86-50-0 (Azinphos methyl); 141-66-2 (Dicrotophos); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet); 2310-17-0 (Phosalone); 5131-24-8 (Ditalimfos); 5598-13-0; 6923-22-4 (Monocrotophos); 10311-84-9 (Dialifos); 13171-21-6 (Phosphamidon); 50782-69-9 (VX); 64249-01-0 (Anilofos); 89784-60-1 (Pyraclofos) Role: ADV (Adverse effect, including toxicity), ANT (Analyte), POL (Pollutant), PRP (Properties), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence) (giving mols. an identity and the interplay between QSARs and partial order ranking)
Citations: 1) Einecs; Directive 67/548/EEC on the application of laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances and the 6th amendment:Directive 79/831/EEC; art 13 1967
Citations: 2) Niemela, J; Working document on the availability of data for classification and labelling of chemical substances at the European market 1994
Citations: 3) Walker, J; SAR QSAR Environ Res 2002, 13, 607
Citations: 4) Carlsen, L; Submitted for publication
Citations: 5) Carlsen, L; Commun Math Comp Chem-MATCH, in press
Citations: 6) Anon; http://www.epa.gov/pbt/framwork.htm, EPA-758-B-00-001
Citations: 7) Fadinap; http://www.fadinap.org/pesticide/
Citations: 8) Connell, D; Ecotox Environ Safety 1988, 16, 242
Citations: 9) Davey, B; Introduction to Lattices and Order 1990
Citations: 10) Carlsen, L; Chemosphere 2001, 43, 295
Citations: 11) Bruggemann, R; QSAR, SAR QSAR Environ Res 2001, 11, 473
Citations: 12) Carlsen, L; SAR and QSAR Environ Res 2002, 13, 153
Citations: 13) Carlsen, L; QSAR Comb Sci 2003, 22, 49
Citations: 14) Hasse, H; Uber die Klassenzahl abelscher Zahlkorper 1952
Citations: 15) Halfon, E; Environ Sci Technol 1986, 20, 1173
Citations: 16) Bruggemann, R; J Chem Int Comput Sci 2001, 41, 918
Citations: 17) Bruggemann, R; Theoretical base of the program \"Hasse\" 1995
Citations: 18) Fishburn, P; J Combinat Theory 1974, 17, 240
Citations: 19) Graham, R; Ordered Sets 1982, 213
Citations: 20) Winkler, P; Discrete Mathematic 1982, 39, 337
Citations: 21) Winkler, P; Siam J Alg Disc Meth 1983, 4, 1
Citations: 22) Bruggemann, R; J Chem Inf Comput Sci 2004, 44, 618
Citations: 23) Lerche, D; J Chem Inf Comput Sci 2002, 42, 1086 The interplay between 'noise-deficient' QSAR and Partial Order Ranking, including anal. of av. linear ranks, constitutes an effective tool in giving substances which have not been investigated exptl. an identity by comparison with exptl. well-characterized, structurally similar compds. It is disclosed that exptl. well-characterized compds. may serve as substitutes for highly toxic compds. in exptl. studies without exhibiting the same extreme toxicity, while from an overall viewpoint they exhibit analogous environmental characteristics. [on SciFinder (R)] 1420-3049 chem/ analysis/ mol/ identity/ QSAR/ partial/ order/ ranking

215. Carlsen, Lars (2005). Partial order ranking of organophosphates with special emphasis on nerve agents. *MATCH* 54: 519-534.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Database: CAPLUS
Accession Number: AN 2006:96354
Chemical Abstracts Number: CAN 145:2295
Section Code: 4-3
Section Title: Toxicology
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Risk assessment; Toxicity (development of partial order based ranking of organophosphates with focus on selected nerve agents); Chemical warfare agents (nerve gases; development of partial order based ranking of organophosphates with focus on selected nerve agents); Insecticides (organophosphorus; development of partial order based ranking of organophosphates with focus on selected nerve agents); QSAR (partial order ranking of organophosphates with special emphasis on nerve agents)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 62-73-7 (Dichlorvos); 77-81-6 (Tabun); 78-53-5 (Amiton); 86-50-0 (Azinphos-methyl); 96-64-0 (Soman); 107-44-8 (Sarin); 107-49-3 (TEPP); 121-75-5 (Malathion); 141-66-2 (Dicrotophos); 298-00-0 (Parathion methyl); 329-99-7 (Cyclosarin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 947-02-4 (Phospholan); 950-10-7 (Mephosfolan); 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos ethyl); 2921-88-2 (Chlorpyriphos); 3147-20-4 (Amiton methyl); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 3811-49-2 (Dioxabenzofos); 4824-78-6 (Bromophos ethyl); 5131-24-8 (Ditalimfos); 5598-13-0 (Chlorpyriphos-methyl); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 17109-49-8 (Edifenphos); 18181-70-9 (Jodfenphos); 20820-80-8 (EDMM); 21068-51-9 (R/C-EA 2192); 21738-25-0 (Ve); 21770-86-5 (VM); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23505-41-1 (Pirimiphos ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24151-93-7 (Piperophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 29232-93-7 (Pirimiphos methyl); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos); 34643-46-4 (Prothiofos); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 36335-67-8 (Butamifos); 36519-00-3 (Phosdiphen); 38260-54-7 (Etrimfos); 41198-08-7 (Profenofos); 42509-80-8 (Isazofos); 50782-69-9 (VX); 57018-04-9 (Tolclofos methyl); 64249-01-0 (Anilofos); 73207-98-4 (EA2192); 73835-17-3 (VS); 83733-82-8 (Fosmethilan); 85473-33-2 (S 12); 89784-60-1 (Pyraclofos); 95465-99-9 (Cadusafos); 98886-44-3 (Fosthiazate); 103827-27-6 (Pirimiphos); 159939-87-4 (R-VX); 468712-10-9 (C-VX) Role: BSU (Biological study, unclassified), BIOL (Biological study) (partial order ranking of organophosphates with special emphasis on nerve agents); 7292-16-2 Role: BSU (Biological study, unclassified), BIOL (Biological study) (propaphos; partial order ranking of organophosphates with special emphasis on nerve agents)
Citations: Bruggemann, R; Theoretical base of the program \"Hasse\" 1995, GSF-Bericht 20/95
Citations: Bruggemann, R; J Chem Inf Comput Sci 2004, 44, 618
Citations: Bruggemann, R; SAR QSAR Environ Res 2001, 11, 473
Citations: Carlsen, L; Internet Electronic Journal of Molecular Design, in press, submitted
Citations: Carlsen, L; Order Theory in Environmental Sciences. Integrative approaches. The 5th workshop, 2002 2003, NERI Technical Report no 479
Citations: Carlsen, L; Chemosphere 2001, 43, 295
Citations: Carlsen, L; QSAR Comb Sci 2003, 22, 49
Citations: Connell, D; Ecotox Environ Safety 1988, 16, 242
Citations: Davey, B; http://www.opcw.org/html/db/cwc/eng/cwc_frameset.html, Introduction to lattices and Order 1990

Citations: de Bruijn, J; Aquatic Tox 1993, 24, 257
Citations: Eldred, D; SAR QSAR Environ Res 1999, 10, 75
Citations: EPI; Pollution Prevention (P2) Framework, http://www.epa.gov/pbt/framwork.htm 2000, EPA-758-B-00-001
Citations: FADINAP; Database on pesticide and the environment, http://www.fadinap.org/pesticide/
Citations: FOI; Chemical Weapons - threat, effects and protection 2002, Briefing Book Number 2
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Citations: Sorensen, P; Berichte des IGB, Leibniz-Institut of Freshwater Ecology and Inland Fisheries 2001, 14, Sonderheft IV, 87
Citations: Anon; http://www.sma.org/smj/97june3.htm 1995
Citations: Verhaar, H; Quant Struct-Act Relat 1994, 13, 133 Organophosphates, esp. the so-called nerve agents including G-agent like Sarin, Tabun, Soman, and V-agents like VX are in general highly toxic substances. Data on the latter compds. are typically classified material and thus only scarcely available. However, a wide variety of structurally related compds. are well known and well characterized, i.e., organophosphor insecticides. Partial order ranking appears as an obvious possibility to remedy the lack of availability of data. Through the partial ordering it is possible to give the nerve agents an identity by comparing them to structurally related organophosphor insecticides and hereby obtain data necessary in order to perform a risk assessment in relation to the demilitarization activities. The paper describes the development of a partial order based ranking of Organophosphates with focus on selected nerve agents. Descriptors applied to rank these substances are \"noise-deficient\" QSAR generated data, i.e., data not being hampered by random fluctuations as they are forced to obey a first order equation. Potential substitutes for nerve agents to be applied in, e.g., exptl. studies are disclosed based on an anal. of av. ranks. [on SciFinder (R)] 0340-6253 organophosphate/ insecticide/ nerve/ agent

216. Carlsen, Lars (2005). A QSAR approach to physico-chemical data for organophosphates with special focus on known and potential nerve agents. *Internet Electronic Journal of Molecular Design* 4: 355-366.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: QSAR.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:693198
Chemical Abstracts Number: CAN 144:1361
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 61
Document Type: Journal; Online Computer File
Language: written in English.
Index Terms: Databases (FADINAP; QSAR approach to physicochem. data for organophosphates with special focus on known and potential nerve agents); Bioconcentration; Chemical warfare agents; Environmental pollution; Henry's law; Partition; QSAR; Seawater pollution; Solubility; Toxicity; Vapor pressure; Water pollution (QSAR approach to physicochem. data for organophosphates with special focus on known and potential nerve agents); Decomposition (biodegrdn.; QSAR approach to physicochem. data for organophosphates with special focus on known and potential nerve agents); Weapons (mass destruction; QSAR approach to physicochem. data for organophosphates with special focus on known and potential nerve agents); Chemical warfare agents (nerve gases; QSAR approach to physicochem. data for organophosphates with special focus on known and potential nerve agents); Insecticides (organophosphorus; QSAR approach to physicochem. data for organophosphates with special focus on known and potential nerve agents); Environmental pollution (pesticide; QSAR approach to physicochem. data for organophosphates with special focus on known and potential

nerve agents); Organic compounds Role: ADV (Adverse effect, including toxicity), POL (Pollutant), PRP (Properties), BIOL (Biological study), OCCU (Occurrence) (phosphorus-contg.; QSAR approach to physicochem. data for organophosphates with special focus on known and potential nerve agents)
CAS Registry Numbers: 52-68-6 (Trichlorfon) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), PRP (Properties), BIOL (Biological study), OCCU (Occurrence) (Chlorophos; QSAR approach to physicochem. data for organophosphates with special focus on known and potential nerve agents); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 62-73-7 (Dichlorvos); 77-81-6 (Tabun); 78-53-5 (Amiton); 86-50-0 (Azinphos methyl); 96-64-0 (Soman); 107-44-8 (Sarin); 107-49-3 (TEPP); 121-75-5 (Malathion); 141-66-2 (Dicrotophos); 298-00-0 (Parathion methyl); 329-99-7 (Cyclosarin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2636-26-2 (Cyanophos); 2642-71-9 (Azinophos ethyl); 2921-88-2 (Chlorpyriphos); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 3811-49-2 (Dioxabenzofos); 4824-78-6 (Bromophos ethyl); 5131-24-8 (Ditalimfos); 5598-13-0; 6923-22-4 (Monocrotophos); 7292-16-2 (Propaphos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8; 17109-49-8 (Edifenphos); 18181-70-9 (Jodfenphos); 20820-80-8 (EDMM); 21738-25-0 (VE); 21770-86-5 (VM); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23505-41-1 (Pirimiphos ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24151-93-7 (Piperophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 29232-93-7 (Pirimiphos methyl); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos); 34643-46-4 (Prothiofos); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 36335-67-8 (Butamifos); 36406-81-2; 36519-00-3 (Phosdiphen); 38260-54-7 (Etrimfos); 41198-08-7 (Profenofos); 42509-80-8 (Isazofos); 50782-69-9 (VX); 57018-04-9 (Tolclofos methyl); 64249-01-0 (Anilofos); 73207-98-4 (EA2192); 73835-17-3 (VS); 83733-82-8 (Fosmethilan); 89784-60-1 (Pyraclofos); 95465-99-9 (Cadusafos); 98886-44-3 (Fosthiazate); 159939-87-4 (R-VX) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), PRP (Properties), BIOL (Biological study), OCCU (Occurrence) (QSAR approach to physicochem. data for organophosphates with special focus on known and potential nerve agents); 9000-81-1 (Acetylcholine esterase) Role: BSU (Biological study, unclassified), BIOL (Biological study) (QSAR approach to physicochem. data for organophosphates with special focus on known and potential nerve agents)
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Citations: 4) de Bruijn, J; Aquatic Tox 1993, 24, 257
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Citations: 15) Bruggemann, R; J Chem Inf Comput Sci 2004, 44, 618
Citations: 16) Anon; http://www.fadinap.org/pesticide/
Citations: 17) Anon; Swedish Defense Research Agency, Briefing Book Number 2 2002
Citations: 18) Lerche, D; J Chem Inf Comput Sci 2002, 42, 1086
Citations: 19) Carlsen, L; Communications in Mathematical and in Computer Chemistry, MATCH, accepted for publication
Citations: 20) Walker, J; SAR QSAR Environ Res 2002, 13, 713 Nerve agents like Sarin, Tabun, Soman, VX, Amiton etc. are highly toxic organophosphates (OPs) that exert their toxic effect by inhibition of acetylcholine esterase. These compds. have received considerable interest due their

inherent nature as weapons of mass destruction. Since these compds. have been developed for military purposes, data is typically classified material and thus only scarcely available. QSAR modeling is an obvious possibility in order to remedy the lack of data availability. However, a wide variety of structurally related OP insecticides are well known and well characterized. \"Noise-deficient\" QSARs, i.e., a QSAR model where the natural variation in both the exptl. data and the primary models data has been suppressed in a subsequent modeling step, for physicochem. properties of nerve agents are based on the use of the EPI Suite, a general QSAR model from the US EPA. Partial order ranking is an important tool to establish an identity for nerve agents relative to well-known OP insecticides. The development of a simple QSAR model for toxicol. properties was unsuccessful. The results described in the paper are obtained using QSAR modeling based on the EPI Suite in comparison with partial order ranking. The concept of \"noise deficient\" QSARs is introduced. \"Noise deficient\" QSARs can be obtained using EPI Suite generated data in combination with exptl. data for the test set, the data subsequently being applied in the ranking exercise. In the present study it is shown that to a certain extent selected insecticides may act as substitutes for nerve agents in preliminary exptl. studies. The paper suggests that exptl. well-characterized compds. may be selected as substitutes for highly toxic compds. for preliminary exptl. studies of the environmental behavior of the latter. [on SciFinder (R)] 1538-6414 QSAR/ physicochem/ data/ organophosphate/ nerve/ agent

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Monosize prolate spheroids of spindle-type iron oxide, produced with aspect ratios of up to 3:1, have proved to be a valuable tool in assessing the performance of a prototype real-time Aerosol Shape Analysis System (ASAS). Aerosol shape analysis system/ monodisperse particles/ spindle-type iron oxide http://www.sciencedirect.com/science/article/B6V6B-487FB41-2J/2/719a8c8202bcfa65cd5bc58acd6bddfc

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Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:156898
Chemical Abstracts Number: CAN 144:474139
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Alkalinity; Astyanax mexicanus; Electric conductivity; Liver (hepatic porphyrin profiles of Astyanax fasciatus to define anthropogenic pollution); Porphyrins Role: BSU (Biological study, unclassified), BIOL (Biological study) (hepatic porphyrin; hepatic porphyrin profiles of Astyanax fasciatus to define anthropogenic pollution)
CAS Registry Numbers: 553-12-8 (Protoporphyrin); 26316-36-9 (Uroporphyrin); 27121-71-7 (Coproporphyrin) Role: BSU (Biological study, unclassified), BIOL (Biological study) (hepatic porphyrin profiles of Astyanax fasciatus to define anthropogenic pollution); 7782-44-7 (Oxygen) Role: GOC (Geological or astronomical occurrence), OCCU (Occurrence) (hepatic porphyrin profiles of Astyanax fasciatus to define anthropogenic pollution); 56-38-2; 60-51-5; 86-50-0; 94-74-6; 115-29-7; 122-34-9; 122-39-4; 137-30-4; 333-41-5; 534-52-1; 732-11-6; 950-37-8; 1071-83-6; 2439-10-3; 2921-88-2; 8018-01-7; 9006-42-2 (Metiram); 67375-30-8; 138261-41-3 Role: POL (Pollutant), OCCU (Occurrence) (hepatic porphyrin profiles of Astyanax fasciatus to define anthropogenic pollution)

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Citations: Woods, J; Toxicology Applied Pharmacology 1991, 110, 464
Citations: Woods, J; Toxicology Applied Pharmacology 1989, 97, 183
Citations: Zar, J; Biostatistical Analysis 1999 The implementation of eco-toxicol. assessment in South America is presently limited due to significant scientific information gaps concerning native species and their potential use as biomarkers. Recently, a common southern hemisphere fish species, Astyanax fasciatus, has been pointed out as a potential bio-indicator to anthropogenic pollution. This is a small, abundant, Neotropical characid, which is widely distributed from

Central America south, to the Rio de la Plata Basin of western Uruguay. Our study found a statistically significant increase of coproporphyrin, uroporphyrin and protoporphyrin concns. in hepatic tissues of A. fasciatus collected from a stream segment with high anthropogenic disturbance (due mainly to agricultural derivs. and motor vehicle transportation activities). Although the area studied showed differences in up and downstream limno-chem. parameters, these differences were not related to the increase of hepatic porphyrin concns. We conclude that A. fasciatus is a good bio-indicator of exposure to environmental contaminants, and we propose that this abundant fish species be considered as a sentinel organism for monitoring potential disturbances to freshwater ecosystems. [on SciFinder (R)] 0045-6535 hepatic/ porphyrin/ Astyanax/ Teleostei/ Characiformes/ anthropogenic/ pollution

219. Casabuono, A. C. and Pomilio, A. B. (1997). Linear, Steroidal, and Triterpene Esters, and Steryl Glycosides From Festuca Argentina. *Lipids, 32 (2) pp. 205-210, 1997*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ISSN: 0024-4201
Abstract: Ester waxes and steryl glycosides of the grass Festuca argentina were studied. Saponification of the waxes from the petroleum ether extract led to n-hexacosanol as the major single linear alcohol, along with pentacyclic triterpenols, such as beta -amyrin, germanicol, isobaurenol, lupeol, hopenol-a and hopeol, and low amounts of sterols, such as cholesterol, campesterol, stigmasterol, sitosterol and dihydrositosterol, identified by gas chromatography/mass spectrometry (GC/MS). Fatty acids were identified as methyl esters as C(12:0), C(14:0), C(16:0), C(18:0), C(18:2), and C(20:0). The occurrence of a wide chainlength range of fatty acids and a single linear alcohol closely matched for other reports on the tribe Festuceae. On the contrary, pentacyclic triterpenols with a variety of skeletons, especially isobauerenol, are not usual as esters of fatty acids in the Gramineae. Low amounts of steryl glycosides were also obtained from the methylene chloride percolate of the methanol extract. Upon acetylation followed by hydrolysis, aglycones were identified by capillary gas-liquid chromatography (GLC) and GC/MS. As Delta superior 7-cholesterol, campesterol, stigmasterol, sitosterol, dihydrositosterol, and the sugars and glucose, xylose, and arabinose by GLC of the respective alditol acetates. This is the first report on the linear, steryl, and triterpenyl esters of F. argentina. It is noteworthy that Delta superior 7-steryl glycosides are rare, and steryl monoarabinosides have not been previously reported on the family Gramineae.
36 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.1.6.2 BIOCHEMISTRY: Secondary Products: Terpenoids
Subfile: Plant Science

220. Casalegno, Mose', Sello, Guido, and Benfenati, Emilio (2006). Top-Priority Fragment QSAR Approach in Predicting Pesticide Aquatic Toxicity. *Chemical Research in Toxicology* 19: 1533-1539.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

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Database: CAPLUS
Accession Number: AN 2006:1117575
Chemical Abstracts Number: CAN 146:56772
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Oncorhynchus mykiss; Pesticides; QSAR (QSAR aquatic toxicity of pesticides to rainbow trout); Toxicity (acute; QSAR aquatic toxicity of pesticides to rainbow trout); Toxicity

(aquatic; QSAR aquatic toxicity of pesticides to rainbow trout); Structure-activity relationship (toxic; QSAR aquatic toxicity of pesticides to rainbow trout)
CAS Registry Numbers: 50-29-3 (DDT); 51-03-6 (Piperonyl butoxide); 52-51-7 (Bronopol); 55-38-9 (Fenthion); 56-35-9 (Tributyl tin oxide); 56-38-2 (Parathion ethyl); 56-95-1 (Chlorhexidine diacetate); 57-24-9 (Strychnine); 58-36-6 (OBPA); 58-89-9 (Lindane); 59-50-7; 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 62-74-8 (Sodium fluoroacetate); 63-25-2 (Carbaryl); 67-63-0 (Isopropanol); 71-55-6 (Methyl chloroform); 72-20-8 (Endrin); 72-54-8 (TDE); 76-06-2 (Chloropicrin); 76-44-8 (Heptachlor); 76-87-9 (Fentin hydroxide); 78-48-8 (Tribufos); 79-09-4 (Propionic acid); 82-66-6 (Diphacinone); 82-68-8 (PCNB); 83-26-1 (Pival); 83-79-4 (Rotenone); 86-87-3 (Naphthaleneacetic acid); 87-86-5 (Pentachlorophenol); 88-04-0 (4-Chloro-3,5-xylenol); 90-43-7 (o-Phenylphenol); 91-20-3 (Naphthalene); 91-53-2 (Ethoxyquin); 93-65-2 (MCPP); 94-11-1 (2,4-D Isopropyl ester); 94-75-7 (2,4-D Acid); 94-80-4 (2,4-D Butyl ester); 99-30-9 (Dicloran); 100-02-7 (p-Nitrophenol); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 106-46-7 (Paradichlorobenzene); 107-06-2 (Ethylene dichloride); 112-05-0 (Nonanoic acid); 112-12-9 (Methyl nonyl ketone); 113-48-4 (MGK-264); 115-32-2 (Dicofol); 116-06-3; 118-52-5 (DCDMH); 120-32-1 (2-Benzyl-4-chlorophenol); 120-36-5 (Dichlorprop); 121-75-5 (Malathion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 126-11-4 (Tris(hydroxymethyl)nitromethane); 132-67-2 (Naptalam sodium salt); 133-06-2 (Captan); 133-07-3 (Folpet); 134-20-3 (Methyl anthranilate); 134-62-3 (N,N-Diethyl-m-toluamide); 136-45-8 (Dipropyl isocinchomeronate); 137-26-8 (Thiram); 138-86-3 (Limonene); 141-66-2 (Dicrotophos); 143-18-0 (Oleic acid potassium salt); 143-50-0 (Kepone); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 300-76-5 (Naled); 301-12-2 (Oxydemeton methyl); 314-40-9 (Bromacil); 330-54-1 (Diuron); 330-55-2 (Linuron); 542-75-6 (1,3-Dichloropropene); 556-61-6 (Methyl isothiocyanate); 563-12-2 (Ethion); 643-79-8 (1,2-Benzenedicarboxaldehyde); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 759-94-4 (EPTC); 834-12-8 (Ametryn); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1071-83-6 (Glyphosate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1192-52-5 (4,5-Dichloro-1,2-dithiol-3-one); 1194-65-6 (Dichlobenil); 1320-18-9 (2,4-D Propylene glycol butyl ether ester); 1397-94-0 (Antimycin A); 1420-04-8 (Niclosamide ethanolamine salt); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1596-84-5 (Daminozide); 1610-18-0 (Prometon); 1646-88-4 (Aldoxycarb); 1689-84-5 (Bromoxynil); 1689-99-2 (Bromoxynil octanoate); 1861-32-1 (Dacthal); 1861-40-1 (Benfluralin); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 1929-73-3 (2,4-D Butoxyethanol ester); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1982-49-6 (Siduron); 1983-10-4 (Tributyltin fluoride); 2104-64-5 (EPN); 2227-17-0 (Dienochlor); 2303-17-5 (Triallate); 2312-35-8 (Propargite); 2439-01-2 (Oxythioquinox); 2439-10-3 (Dodine); 2492-26-4 (Sodium 2-mercaptobenzothiazolate); 2536-31-4 (Chlorflurenol methyl); 2593-15-9 (Etridiazole); 2634-33-5 (Benzisothiazolone); 2665-13-6; 2675-77-6 (Chloroneb); 2686-99-9 (3,4,5-Trimethacarb); 2893-78-9 (Dichloro-s-triazinetrione sodium salt); 2921-88-2 (Chlorpyrifos); 3064-70-8 (Bis(trichloromethyl)sulfone); 3244-90-4 (Aspon); 3380-34-5 (Triclosan); 3383-96-8 (Temephos); 3547-33-9 (2-Hydroxyethyl octyl sulfide); 3689-24-5 (Sulfotepp); 3691-35-8 (Chlorophacinone); 3861-41-4 (Bromoxynil butyrate); 4080-31-3 (Dowicil 75); 4602-84-0 (Farnesol); 5234-68-4 (Carboxin); 5598-13-0 (Chlorpyrifos methyl); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6317-18-6 (Methylenebis(thiocyanate); 7166-19-0 (b-Bromo-b-nitrostyrene); 7173-51-5 (DDAC); 7212-44-4 (Nerolidol); 7287-19-6 (Prometryn); 7673-09-8 (Trichloromelamine); 7745-89-3 (3-Chloro-p-toluidine hydrochloride); 7747-35-5 (Oxazolidine E); 7779-27-3 (1,3,5-Triethylhexahydro-s-triazine); 10222-01-2 (DBNPA); 10453-86-8 (Resmethrin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13356-08-6 (Fenbutatin oxide); 13684-63-4 (Phenmedipham); 15299-99-7 (Napropamide); 15662-33-6 (Ryanodine); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazon); 20018-09-1 (Diiodomethyl p-tolyl sulfone); 21087-64-9 (Metribuzin); 22781-23-3 (Bendiocarb); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23422-53-9 (Formetanate hydrochloride); 25311-71-1 (Isofenphos); 25954-13-6 (Fosamine ammonium); 26530-20-1 (Octhilinone); 26532-25-2; 27314-13-2 (Norflurazon); 28159-98-0 (Irgarol); 28249-77-6 (Thiobencarb); 29232-93-7 (Pirimiphos methyl); 29457-72-5 (Lithium perfluorooctane sulfonate); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 33089-61-1 (Amitraz); 33629-47-9 (Butralin); 33820-53-0 (Isopropalin); 34014-18-1 (Tebuthiuron); 34256-82-1 (Acetochlor); 35367-

38-5 (Diflubenzuron); 35554-44-0 (Imazalil); 35691-65-7 (1,2-Dibromo-2,4-dicyanobutane); 36362-09-1 (2-(Decylthio)ethylamine hydrochloride); 36734-19-7 (Iprodione); 37304-88-4 (Bioban P-1487); 38727-55-8 (Diethatyl ethyl); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenophos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 43222-48-6 (Difenzoquat methyl sulfate); 50723-80-3 (Bentazon sodium salt); 51200-87-4 (4,4-Dimethyloxazolidine); 51218-45-2 (Metolachlor); 52918-63-5 (Deltamethrin); 53042-79-8 (cis-7-trans-11-Hexadecadienyl acetate); 53939-28-9 (Z-11-Hexadecenal); 54593-83-8 (Chlorethoxyfos); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55290-64-7 (Dimethipin); 55335-06-3 (Triclopyr); 55406-53-6 (3-Iodo-2-propynyl butylcarbamate); 56073-10-0 (Brodifacoum); 56425-91-3 (Flurprimidol); 57754-85-5 (Clopyralid monoethanolamine salt); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58138-08-2 (Tridiphane); 59669-26-0 (Thiodicarb); 59756-60-4 (Fluridone); 60168-88-9 (Fenarimol); 62924-70-3 (Flumetralin); 64359-81-5 (4,5-Dichloro-2-octyl-3(2H)-isothiazolone); 64700-56-7 (Triclopyr butoxyethanol ester); 66332-96-5 (Flutolanil); 66441-23-4 (Fenoxaprop ethyl); 66841-24-5; 66841-25-6 (Tralomethrin); 67485-29-4 (Hydramethylnon); 68254-10-4 (Fenridazon); 68359-37-5 (Cyfluthrin); 68694-11-1 (Triflumizole); 69409-94-5 (Fluvalinate); 72490-01-8 (Fenoxycarb); 74051-80-2 (Sethoxydim); 76738-62-0 (Paclobutrazol); 79270-78-3 (Dichlorprop 2-ethylhexyl ester); 79538-32-2 (Tefluthrin); 79622-59-6 (Fluazinam); 81335-37-7 (Imazaquin); 81335-77-5 (Imazethapyr); 81405-85-8 (Imazamethabenz methyl ester); 81777-89-1 (Clomazone); 82633-79-2 (2-Methyl-4,5-trimethylene-4-isothiazolin-3-one); 82657-04-3 (Bifenthrin); 83657-17-4 ((S)-Uniconazole); 85264-33-1 (3,5-Dimethyl-1-(hydroxymethyl)pyrazole); 86209-51-0 (Primisulfuron methyl); 87546-18-7 (Flumiclorac pentyl); 87674-68-8 (Dimethenamid); 90982-32-4 (Chlorimuron ethyl); 91465-08-6 (l-Cyhalothrin); 95266-40-3 (Cimectacarb); 96182-53-5 (Phostebupirim); 96489-71-3 (Pyridaben); 97886-45-8 (Dithiopyr); 103361-09-7 (Flumioxazin); 104206-82-8 (Mesotrione); 104653-34-1 (Difethialone); 105512-06-9 (Clodinafop propargyl); 105726-67-8 (N-Methylneodecanamide); 107534-96-3 (Tebuconazole); 109293-98-3 (Diflufenzopyr-sodium); 114369-43-6 (Fenbuconazole); 116255-48-2 (Bromuconazole); 117337-19-6 (Fluthiacet methyl); 117718-60-2 (Thiazopyr); 119446-68-3 (Difenoconazole); 121552-61-2 (Cyprodinil); 122453-73-0 (Chlorfenapyr); 126535-15-7 (Triflusulfuron methyl); 126833-17-8 (Fenhexamid); 128639-02-1 (Carfentrazone ethyl); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 131929-60-7 (Spinosyn A); 134098-61-6 (Fenpyroximate); 135158-54-2 (Acibenzolar-S-methyl); 138261-41-3 (Imidacloprid); 141517-21-7 (Trifloxystrobin); 142459-58-3 (Flufenacet); 143390-89-0 (Kresoxim methyl); 149877-41-8 (Bifenazate); 156052-68-5 (Zoxamide) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (QSAR aquatic toxicity of pesticides to rainbow trout)

Citations: 1) Anon; Food Quality Protection Act (FQPA), Public Law 104-170 1996
Citations: 2) Anon; OJ L 1991, 230, 1
Citations: 3) Anon; Overview of the Ecological Risk Assessment Process in the Office of Pesticide Programs, Endangered and Threatened Species Effects Determinations 2004
Citations: 4) Anon; Guidance Document on Aquatic Ecotoxicology under Council Directive 91/414/EEC, SANCO/3268/2001 rev 4 (final) 2002
Citations: 5) Anon; Guidance Document on Terrestrial Ecotoxicology under council Directive 91/414/EEC, SANCO/10329/2002 rev 2 (final) 2002
Citations: 6) Anon; Fed Regist 1998, 63(93), 26846
Citations: 7) Anon; Technical Guidance Document in support of Commission directive 93/67/EEC for new notified substances and Commission regulation (EC) No 1488/94 on risk assessment for existing substances 1996
Citations: 8) Anon; www.epa.gov/pesticides/trac/science
Citations: 9) Sinclair, C; Final Report 2002
Citations: 10) Vighi, M; Sci Total Environ 1991, 109/110, 605
Citations: 11) Nendza, M; Sci Total Environ 1991, 109/110, 527
Citations: 12) Nendza, M; Chemosphere 1991, 23, 497
Citations: 13) Devillers, J; SAR QSAR Environ Res 2004, 15, 501
Citations: 14) Devillers, J; SAR QSAR Environ Res 2002, 13, 641
Citations: 15) Sparks, T; Pest Manag Sci 2001, 57, 896
Citations: 16) Devillers, J; SAR QSAR Environ Res 2001, 11, 397

Citations: 17) Devillers, J; SAR QSAR Environ Res 2000, 11, 25
Citations: 18) Perez, G; J Chem Inf Comput Sci 2003, 43, 1192
Citations: 19) Toropov, A; Bioorg Med Chem 2006, 14, 2779
Citations: 20) Toropov, A; Bioorg Med Chem Lett 2006, 16, 1941
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Citations: 23) Mekenyan, O; SAR QSAR Environ Res 2003, 14, 361
Citations: 24) Anon; Contract No QLK5-CT-2002-00691
Citations: 25) Roncaglioni, A; J Environ Sci Heal 2004, B39, 641
Citations: 26) Casalegno, M; Chem Res Toxicol 2005, 18, 740
Citations: 27) Adamson, G; J, Chem Soc C 1971, 3702
Citations: 28) Toropov, A; Bioorg Med Chem 2006, 14, 3923 In the framework of pesticide risk assessment, a fragment-based QSAR approach is presented to correlate LC50-96 h acute toxicity to the rainbow trout (Oncorhynchus mykiss). While there are other fragment-based modeling routes, our approach exploits the possibility of prioritizing fragments' contributions to toxicity. On the assumption that one fragment might be mainly responsible for the mol. toxicity, we developed a three-stage modeling strategy to select the most important moieties and to establish their priorities at a mol. level. This strategy was tested on a heterogeneous dataset contg. 282 pesticides, collected under the EU-funded project Demetra. Quant. toxicity prediction yielded good results for the training set (R2TR = 0.85) and the test set (R2TS = 0.75). The advantages and limitations of the current priority strategy are examd. [on SciFinder (R)] 0893-228X pesticide/ aquatic/ toxicity/ QSAR/ Oncorhynchus

221. Cecchettini, A., Scarcelli, V., Locci, M. T., Masetti, M., and Giorgi, F. (2002). Vitellin polypeptide pathways in late insect yolk sacs. *Arthropod Structure & Development* 30: 243-250.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

A panel of monoclonal antibodies was raised against late yolk sacs of the stick insect Carausius morosus and tested by immunoblotting to establish the extent vitellin polypeptides are processed proteolytically during embryonic development. Cryosections of late yolk sacs were also examined by confocal laser microscopy to determine how vitellin cleavage products become spatially distributed amongst yolk granules during the same developmental period. Distinct labelling patterns were obtained on yolk granules depending on: (1) the nature of the proteolytic processing; (2) the origin of vitellin cleavage products; and ultimately (3) their molecular sizes. Monoclonal antibodies raised against vitellin cleavage products resulting from proteolytic processing appeared to label: (1) the entire volume of many yolk granules; (2) their limiting membrane; or (3) a number of small vesicles interposed between larger yolk granules. On the other hand, monoclonal antibodies against vitellin cleavage products that remain invariant throughout development appeared to label either the serosa membrane or the cytosolic space comprised between adjacent yolk granules. Data are interpreted as indicating that vitellin cleavage products may leak out from the yolk granules, gain access to the cytosolic space of the vitellophages and eventually percolate through the serosa membrane enclosing the yolk sac. Carausius morosus/ Vitellin/ Yolk sac/ Limited proteolysis http://www.sciencedirect.com/science/article/B6W66-450HH72-2/2/d5feb9568663a5cc920c326d91e6ea57

222. Centers, F. O. R. Disease Control (1999). Illnesses Associated With Ocupational Use of Flea-Control Products: California, Texas, and Washington, 1989-1997. *Morbidity and mortality weekly report* 48: 443-447.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM CASE STUDY HUMAN PUBLIC HEALTH EPIDEMIOLOGY FLEA-CONTROL PRODUCTS ADVERSE EFFECTS SHAMPOO OCCUPATIONAL EXPOSURE INSECTICIDE DIPS TOXICOLOGY OCCUPATIONAL HEALTH PESTICIDE-RELATED ILLNESSES PYRETHRINS PESTICIDE TOXICITY CALIFORNIA TEXAS WASHINGTON USA
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING

MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: PUBLIC HEALTH ADMINISTRATION
MESH HEADINGS: STATISTICS
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: MORBIDITY
MESH HEADINGS: NEOPLASMS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health-Public Health Administration and Statistics
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Public Health: Epidemiology-Organic Diseases and Neoplasms
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

223. Centers for Disease Control (Cdc) (Organophosphate Toxicity Associated With Flea-Dip Products--California. *Mmwr morb mortal wkly rep. 1988, jun 3; 37(21):329-30, 335-6. [Mmwr. Morbidity and mortality weekly report]: MMWR Morb Mortal Wkly Rep.*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

MESH HEADINGS: Adult
MESH HEADINGS: Animals
MESH HEADINGS: Atropine/therapeutic use
MESH HEADINGS: California
MESH HEADINGS: Chlorpyrifos/poisoning
MESH HEADINGS: Female
MESH HEADINGS: Fleas
MESH HEADINGS: Humans
MESH HEADINGS: Information Services
MESH HEADINGS: Insecticides/*poisoning
MESH HEADINGS: Occupational Diseases/*chemically induced
MESH HEADINGS: Phosmet/poisoning
MESH HEADINGS: Population Surveillance
MESH HEADINGS: Protective Clothing
LANGUAGE: eng

224. Chambers, Janice E., Boone, J. Scott, and Tyler, John (1999). Challenges associated with monitoring residues of insecticides used as flea control remedies on pet dogs. ENVR-021.
Chem Codes: Chemical of Concern: PSM Rejection Code: ABSTRACT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:540950
Document Type: Conference; Meeting Abstract
Coden: 67ZJA5
Language: written in English. An area of insecticide exposure assessment which has received little attention in the past is that of exposure resulting from contact with pets who have been treated with insecticidal flea control products. It is possible that some of these residential exposures may be appreciable, esp. shortly after application of the insecticide. Our labs. are currently involved in

expts. to quantitate the dislodgeable residues from organophosphate flea dips or flea collars. The residues are obtained by rubbing the backs of dogs with white cotton gloves, followed by extn. and gas chromatog. Both chlorpyrifos and phosmet dips yielded high initial residues which dissipated quickly. The tetrachlorvinphos collar yielded slowly dissipating residues. At present, a chlorpyrifos collar is being tested, including monitoring of urinary metabolites in a child and an adult in the household of the dog. IACUC and IRB approvals were not difficult to obtain. Recruitment and compliance of the first three dog-only studies was relatively easy, whereas recruitment of households for the last study involving biomonitoring has been considerably more challenging. Two factors contributing to this challenge are the more limited group of households available (requiring a child in the 4-12 yr of age range) and the concern of some parents for the possible adverse effects of the insecticide on the child. [on SciFinder (R)]

225. Chan, Hak-Kim and Gonda, Igor (1989). Aerodynamic properties of elongated particles of cromoglycic acid. *Journal of Aerosol Science* 20: 157-168.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Crystals of cromoglycic acid were prepared by precipitation and recrystallization from water. Aerosols of dry CA particles in air were generated by nebulizing a dilute suspension of CA and drying. The aerodynamic properties of these particles were measured directly by cascade impaction which gave a mass median aerodynamic diameter MMAD = 0.7 [mu]m and geometric standard deviation [sigma][sigma] = 1.9. The aerodynamic diameters were also calculated from the geometric dimensions obtained from electronmicrographs with, or without, the shadowing technique for determination of the thickness of the particles. Two methods derived for the aerodynamic behaviour of prolate spheroids and an empirical equation for elongated particles (Johnson, J. Aerosol Sci. 17, 426-430, 1986; Johnson et al., J. Aerosol Sci. 18, 87-97, 1987) were employed. The calculated MMAD and [sigma][sigma] assuming perpendicular orientation of the elongated particles with respect to the direction of motion were in reasonable agreement with the values obtained by cascade impaction. http://www.sciencedirect.com/science/article/B6V6B-48C8MM4-J/2/5a63cdf020e658d475008387b11289bb

226. Chan, James Hua-Hin (20070118). Ant bait attractive to many species of ants and useful in their rapid control. 9pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:62374
Chemical Abstracts Number: CAN 146:116389
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: USXXCO
Index Terms: Dairy products; Dispersing agents; Honey; Insect attractants; Odor and Odorous substances; Peanut butter; Pesticide formulations; Preservatives; Solenopsis; Surfactants; Sweetening agents (bait attractive to many species of ants and useful in their rapid control); Proteins; Soybean oil Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (bait attractive to many species of ants and useful in their rapid control); Insecticides (baits; bait attractive to many species of ants and useful in their rapid control); Formicidae (carpenter; bait attractive to many species of ants and useful in their rapid control); Bread (crums; bait attractive to many species of ants and useful in their rapid control); Fish (dried; bait attractive to many species of ants and useful in their rapid control); Food (for dogs and cats; bait attractive to many species of ants and useful in their rapid control); Pyrethrins Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; bait attractive to many species of ants and useful in their rapid control); Odor and Odorous substances (rose; bait attractive to many species of ants and useful in their rapid control); Fats and Glyceridic oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (sesame; bait attractive to many species of ants and useful in their rapid control); Shrimp (shells, dried;

bait attractive to many species of ants and useful in their rapid control)
CAS Registry Numbers: 57-50-1 (Sugar); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 121-75-5; 333-41-5; 732-11-6 (Phosmet); 1398-61-4 (Chitin); 2921-88-2; 4477-79-6 (Calco oil red N-1700); 8076-84-4 (Tenox 4); 11138-66-2 (Kelzan); 16752-77-5 (Methomyl); 29232-93-7 (Pyrimiphos-methyl); 30560-19-1 (Acephate); 34643-46-4 (Prothiophos); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 66230-04-4 (Esfenvalerate); 68359-37-5 (Cyfluthrin); 73904-70-8 (Proxel); 73989-17-0 (Avermectin); 138261-41-3 (Imidacloprid) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (bait attractive to many species of ants and useful in their rapid control); 7732-18-5 (Water) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (deionized; bait attractive to many species of ants and useful in their rapid control)
Patent Application Country: Application: US An attractant bait compn. and method for the control of many species of ants which includes a food base, attractants, sweeteners, carriers, dispersants, surfactants, fragrances, preservatives and one or more toxicants; wherein the method of application is of an ant bait compn. having delayed ant toxic action comprising an ant attractant bait, contg. a toxic effective amt. of an ant effective toxicant, and in a delayed action formulation free of ant repellency characteristics. Further, considerations in the design selection of a bait material is the consistency of the bait, taste of the bait, speed of action of the toxicant, type of toxicant and odor as perceived by the ants. [on SciFinder (R)] bait/ insecticide/ ant/ control

227. Chan, James Hua-Hin (20070118). Roach bait attractive to many species of roach and useful in their rapid control . 9pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:62376
Chemical Abstracts Number: CAN 146:136887
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: USXXCO
Index Terms: Blood (animal; roach bait attractive to many species of roach and useful in their rapid control); Insecticides (baits; roach bait attractive to many species of roach and useful in their rapid control); Bread (crumb; roach bait attractive to many species of roach and useful in their rapid control); Food (for dogs and cats; roach bait attractive to many species of roach and useful in their rapid control); Sawdust (pine wood; roach bait attractive to many species of roach and useful in their rapid control); Pyrethrins Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; roach bait attractive to many species of roach and useful in their rapid control); Blattaria; Culicidae; Dairy products; Diptera; Dispersing agents; Honey; Insect attractants; Isoptera; Odor and Odorous substances; Peanut butter; Pesticide formulations; Preservatives; Surfactants; Sweetening agents; Taste; Wasp (roach bait attractive to many species of roach and useful in their rapid control); Proteins; Soybean oil Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (roach bait attractive to many species of roach and useful in their rapid control); Perfumes (rose; roach bait attractive to many species of roach and useful in their rapid control); Fats and Glyceridic oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (sesame; roach bait attractive to many species of roach and useful in their rapid control); Shrimp (shell, dried; roach bait attractive to many species of roach and useful in their rapid control)
CAS Registry Numbers: 7732-18-5 (Water) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (deionized; roach bait attractive to many species of roach and useful in their rapid control); 57-50-1 (Sucrose); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 121-75-5; 333-41-5; 732-11-6 (Phosmet); 1398-61-4 (Chitin); 2921-88-2; 4477-79-6 (Calco oil red N-1700); 8076-84-4 (Tenox 4); 11138-66-2 (Kelzan); 16752-77-5 (Methomyl); 29232-93-7 (Pyrimiphos-methyl); 30560-19-1 (Acephate); 34643-46-4 (Prothiophos); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 66230-04-4 (Esfenvalerate); 68359-37-5 (Cyfluthrin); 73904-70-8 (Proxel); 73989-17-0 (Avermectin); 138261-41-3 (Imidacloprid) Role: BUU

(Biological use, unclassified), BIOL (Biological study), USES (Uses) (roach bait attractive to many species of roach and useful in their rapid control)
Patent Application Country: Application: US An attractant bait compn. has been discovered for the control of many species of roaches. A similar group of baits were also found to be effective for the control of wasps, flies, termites, and mosquitoes. The compn. includes a food base, attractants, sweeteners, carriers, dispersants, surfactants, fragrances, preservatives and a toxicant or toxicants. Important further considerations in the design of a bait material is the consistency of the bait, taste of the bait, speed of action of the toxicant, type of toxicant and odor as perceived by the various insects. [on SciFinder (R)] insecticide/ bait/ roach/ control

228. Chandra, S., Chauhan, L. K., Dhawan, A., Murthy, R. C., and Gupta, S. K. (2006). In Vivo Genotoxic Effects of Industrial Waste Leachates in Mice Following Oral Exposure. *Environ.Mol.Mutagen.* 47: 325-333.
Rejection Code: EFFLUENT.

229. Chang, Jen-Shih (1981). Theory of diffusion charging of arbitrarily shaped conductive aerosol particles by unipolar ions. *Journal of Aerosol Science* 12: 19-26.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The theory of diffusion charging of aerosol particles by unipolar ions having no external electric fields, is re-examined for arbitrary particle shape. For smaller effective Knudsen number (continuum limit), the time history of the charging of arbitrarily shaped particles can be obtained when the capacitance of the particles is known. For larger effective Knudsen numbers, the time history of the charging of arbitrarily shaped particles can be obtained when the capacitance and surface area of particles are known. Systematical analyses have been presented for bipolar sphere, oblate and prolate spheroids. The effect of gravitational motion of large aerosol particles on the charging process has been discussed. http://www.sciencedirect.com/science/article/B6V6B-48BDP55-1Y/2/86f36a7cbdfb95c5f9c7797d32abe92b

230. Chang, Jen-Shih, Ono, S., and Teii, S. (1989). Numerical and experimental simulations of diffusion charging of non-spherical aerosol particles by dense bipolar ions. *Journal of Aerosol Science* 20: 1099-1102.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Numerical and experimental simulations have been conducted for the time history of the diffusion charging process on the surface of aerosol particles by dense bipolar ions under continuum conditions. The range of conditions treated in the numerical simulations include positive-negative ion diffusion coefficient ratio from 0 to 1, aerosol particle radius from 0.1 to 10 [mu]m, Debye ratio Rp/[lambda]D from 0 to 1 (equivalent to maximum charge density up to N1 = 1012 cm-3 for an ion temperature of 300 K), the major-to minor axis ratios of prolate spheroids, L, from 1 to 100. The experimental simulation was conducted by using a conductive dummy particle suspended by a thin shielded wire, and the charged particle deposition current flux was measured and the bipolar environments. Then the effect of particle surface charges was simulated by imposing an electric potential on the dummy particles. The results show that, (1) for small ion density (Rp/[lambda]D [less-than-or-equals, slant] 10-2); the present results are in good agreement with model of Chang et al. (1978, 1983). (2) the aeroso particle charging speed and charging limit increase with increasing Debye ratio; (3) for larger Debye ratio, bipolar charging is faster than unipolar charging; (4) the effect of particle shape L is observed to be significantly influenced by Debye ratios: (5) the charging limit of the aerosol particle increases with L. http://www.sciencedirect.com/science/article/B6V6B-4888DFM-3K/2/65ba0b0cdceb81db12ce470a461de03d

231. Chang, Ju-Mei, Chen, Tay-Hwa, and Fang, Tony J (2005). Pesticide residue monitoring in marketed fresh vegetables and fruits in Central taiwan (1999-2004) and an introduction to the HACCP system. *Yaowu Shipin Fenxi* 13: 368-376.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 2006:255975
Chemical Abstracts Number: CAN 145:395826
Section Code: 17-3
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Capsicum annuum annuum (grossum group; pesticide residue monitoring in marketed fresh vegetables and fruits in Central Taiwan (1999-2004) and introduction to hazard anal. crit. control point system); Allium tuberosum; Apium graveolens; Brassica campestris; Brassica oleracea capitata; Brassica pekinensis; Daucus carota; Fruit; Gas chromatography; HPLC; Health hazard; Human; Ipomoea aquatica; Lactuca sativa; Momordica charantia; Raphanus sativus; Risk assessment; Safety; Sensors; Syzygium samarangense; Vegetable; Vitis vinifera (pesticide residue monitoring in marketed fresh vegetables and fruits in Central Taiwan (1999-2004) and introduction to hazard anal. crit. control point system); Pesticides (residue; pesticide residue monitoring in marketed fresh vegetables and fruits in Central Taiwan (1999-2004) and introduction to hazard anal. crit. control point system)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Ethyl-parathion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 148-79-8 (Thiabendazole); 298-00-0 (Methyl-parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-86-8 (Demeton-s-methyl); 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1563-66-2 (Carbofuran); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2439-01-2 (Chino-methionat); 2597-03-7; 2631-40-5 (Isoprocarb); 2921-88-2 (Chlorpyrifos); 3766-81-2 (Fenobucarb); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13593-03-8 (Quinalphos); 16709-30-1 (3-Keto carbofuran); 16752-77-5 (Methomyl); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 22259-30-9 (Formetanate); 24017-47-8 (Triazophos); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 34643-46-4 (Prothiofos); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenophos); 43121-43-3 (Triadimefon); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 59669-26-0 (Thiodicarb); 66230-04-4 (Esfenvalerate); 67375-30-8 (Alphacypermethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 82657-04-3 (Bifenthrin); 89784-60-1 (Pyraclofos); 103827-27-6 (Pirimiphos) Role: FFD (Food or feed use), BIOL (Biological study), USES (Uses) (pesticide residue monitoring in marketed fresh vegetables and fruits in Central Taiwan (1999-2004) and introduction to hazard anal. crit. control point system)
Citations: 1) Waxman, M; Agrochemical and Pesticide Safety Handbook 1998
Citations: 2) Bergmann, H; Chemistry of Plant Protection 1989
Citations: 3) Wang, C; J Food Drug Anal 2000, 8, 149
Citations: 4) Wong, S; Symposium on safety control of food materials 2004
Citations: 5) Shen, C; Annual Scientific Report of BFDA, Executive Yuan 2004, 22, 129
Citations: 6) Anon; http://www.cfsan.fda.gov
Citations: 7) Beuchat, L; Emerg Infect Dis 1997, 3, 459
Citations: 8) Pesticide Residue Surveys; http://www.ifas.ufl.edu
Citations: 9) Anon; http://www.agric.nsw.gov.au 1995-1996
Citations: 10) Department Of Health; Executive Yuan 2004
Citations: 11) Wen, H; Annual Scientific Report of BFDA, Executive Yuan 2004, 22, 207
Citations: 12) Su, H; J Food Drug Anal 2003, 11, 296
Citations: 13) Chou, C; J Food Drug Anal 2004, 12, 140

Citations: 14) Tseng, S; J Food Drug Anal 2004, 10, 127
Citations: 15) Tseng, S; Executive Yuan 2004, 22, 119
Citations: 16) Tseng, S; J Food Drug Anal 2004, 10, 127
Citations: 17) Anon; http://www.nal.usda.gov
Citations: 18) Gunderson, E; J AOAC Int 1995, 78, 910
Citations: 19) Foegeding, P; Int J Food Microbiol 1997, 36, 87
Citations: 20) Fang, T; Reviews in Food and Nutrition Toxicity 2005, Feb, 143
Citations: 21) Ropkins, K; Trends Food Sci Technol 2000, 11, 105
Citations: 22) Fang, T; International Scientific Symposium on Status and Development of HACCP System 2003
Citations: 23) Department Of Health; Methods of Test for Pesticide Residues in Foods-multiresidue Analysis 2001
Citations: 24) Department Of Health; Methods of Test for Pesticide Residues in Foods-Test of Fruits Multiresidue Analysis 1999
Citations: 25) Department Of Health; Methods of Test for Pesticide Residues in Foods-Test of Dithiocarbamates 2000
Citations: 26) Kaihara, A; J Health Sci 2000, 46, 336
Citations: 27) Sherma, J; J AOAC Int 2001, 84, 1303
Citations: 28) Luke, M; J AOAC Int 1975, 58, 1020
Citations: 29) Sadlo, S; J AOAC Int 2000, 83, 214
Citations: 30) Department Of Health; Annual scientific report of BFDA 2001-2003
Citations: 31) Budavari, S; The Merck index 11th ed 1989 The objectives of this study are:. (1) To collect and analyze the data of pesticide residues in vegetables and fruits in central Taiwan;. (2) To compare the statistics of pesticide residues data in vegetables and fruits in 4 regions of Taiwan; and. (3) To introduce the Hazard Anal. Crit. Control Point (HACCP) system to industries and growers of vegetables and fruits for improving the safety of agricultural products. The 1999 samples of vegetables and fruits were collected from supermarkets and traditional markets by 6 local bureau of health in central Taiwan (1999-2004) and analyzed for the presence of 70.apprx.79 pesticide residues using multiresidue anal. methods (MRMs). The detection limits of these methods ranged from 0.03 to 0.4 ppm. For central Taiwan (1999-2004), pesticide residues were either absent or compliant with the Maximum Residue Limit (MRL) in 99.8% of the samples. Only 4 samples contained a pesticide residue that exceeded the MRL (0.2%, 4 of 1999). In whole Taiwan (1997-2003), pesticide residues were detected in 13.9% of the 9955 samples and 1.2% were violative. To decrease the health risk to human and environment from exposure to pesticides, the government samples and analyzes agricultural products for pesticide residues to enforce the limits set by Department of Health every year. Risk assessment and HACCP have some overlapping components; both HACCP and risk assessment are encompassed in risk anal. HACCP is a preventative system and will provide a high level of food safety assurance. However, effective HACCP requires the consideration of all hazards, i.e. chem. (food additives, heavy metal contamination, pesticide residues, and animal drug residues), microbiol. and phys. hazards. HACCP principles have been incorporated into food safety legislation in Taiwan and worldwide. [on SciFinder (R)] 1021-9498 pesticide/ residue/ risk/ assessment/ vegetable/ fruit

232. Charizopoulos, Emmanouil and Papadopoulou-Mourkidou, Euphemia (1999). Occurrence of Pesticides in Rain of the Axios River Basin, Greece. *Environmental Science and Technology* 33: 2363-2368.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:346508
Chemical Abstracts Number: CAN 131:63136
Section Code: 61-9
Section Title: Water
CA Section Cross-References: 5, 59
Document Type: Journal
Language: written in English.

Index Terms: Air pollution (pesticide; temporal and spatial variation of pesticide occurrence in rain water of Axios River basin, Greece); Atmospheric precipitation; Pesticides (temporal and spatial variation of pesticide occurrence in rain water of Axios River basin, Greece)
CAS Registry Numbers: 56-38-2 (Parathion-ethyl); 58-89-9 (Lindane); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 122-34-9 (Simazine); 133-06-2 (Captan); 298-00-0 (Parathion-methyl); 319-86-8 (D-HCH); 333-41-5 (Diazinon); 709-98-8 (Propanil); 732-11-6 (Phosmet); 759-94-4 (EPTC); 950-35-6 (Paraoxon-methyl); 950-37-8 (Methidathion); 959-98-8 (Endosulfan a); 1007-28-9 (Deisopropylatrazine); 1031-07-8 (Endosulfan sulfate); 1134-23-2 (Cycloate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluraline); 1634-78-2 (Malaoxon); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2212-67-1 (Molinate); 2310-17-0 (Phosalone); 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos-ethyl); 6190-65-4 (Deethylatrazine); 7287-19-6 (Prometryne); 13457-18-6 (Pyrazophos); 15972-60-8 (Alachlor); 21725-46-2 (Cyanazine); 23103-98-2 (Pirimicarb); 26225-79-6 (Ethofumesate); 29232-93-7; 40487-42-1 (Pendimethalin); 51218-45-2 (Metolachlor); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 67564-91-4 (Fenpropimorph); 72490-01-8 (Fenoxycarb) Role: OCU (Occurrence, unclassified), POL (Pollutant), OCCU (Occurrence) (temporal and spatial variation of pesticide occurrence in rain water of Axios River basin, Greece)
Citations: 1) Wania, F; Ambio 1993, 22, 10
Citations: 2) Atlas, E; Science 1981, 211, 163
Citations: 3) Zabic, J; J Environ Qual 1993, 22, 80
Citations: 4) Bester, K; Chemosphere 1995, 30, 1639
Citations: 5) Trevisan, M; Environ Pollut 1993, 80, 31
Citations: 6) Wust, D; Environ Sci Pollut Res Int 1994, 1, 196
Citations: 7) Richards, P; Nature 1987, 327, 129
Citations: 8) Wu, T; Water, Air Soil Pollut 1981, 15, 173
Citations: 9) Nations, B; J Environ Qual 1992, 21, 456
Citations: 10) Goolsby, D; Environ Sci Technol 1997, 31, 1325
Citations: 11) Siebers, J; Chemosphere 1994, 28, 1559
Citations: 12) Chevreuil, M; Chemosphere 1993, 27, 1605
Citations: 13) Scharf, J; Anal Chem 1992, 342, 813
Citations: 14) Sandmann, E; Chemosphere 1991, 22, 137
Citations: 15) Patsias, J; J Chromatogr 1996, 740, 83
Citations: 16) Seiber, J; Environ Toxicol Chem 1989, 8, 577
Citations: 17) Glotfelty, E; Nature 1987, 352, 602
Citations: 18) Aston, L; J Environ Qual 1997, 26, 1483
Citations: 19) Suntio, L; Rev Environ Contam Toxicol 1988, 103, 1
Citations: 20) EEC; EEC Drinking Water Directive 83/98 1998 The Axios River basin is one of the most developed agricultural areas of Greece. Samples from 205 rain events collected at 8 sampling stations in 1997-1998 were analyzed for pesticide residues of which 186 events (90%) yielded at least 1 pos. detection. Among 160 target pesticides and some major conversion products recovered by solid-phase extn. and analyzed by gas chromatog.-ion trap mass spectroscopy, 47 compds. were obsd. in at least 1 rain event. The most frequently obsd. pesticides were alachlor (49%), lindane (44%), parathion-Me (38%), atrazine (30%), quintozene (28%), metolachlor (24%), prometryne (23%), and molinate (22%). Diazinon, chlorpyrifos-Et, methidathion, ethofumesate, and parathion occurrence accounted for 14-17% of analyzed samples. The remaining target analytes were present in <10% of analyzed samples. Concns. of individual compds. were 0.002-6.82 mg/L. Greater pesticide concns. occurred in application seasons. Estd. annual deposition rates for the sum of pesticides were 51-395 mg/m2 of soil surface. [on SciFinder (R)] 0013-936X pesticide/ rain/ water/ Axios/ River/ basin/ Greece;/ air/ pollution/ pesticide/ rain/ water/ Greece

233. Chatani, Y., Chikamoto, T., Munehisa, M., Adachi, T., and Komatsu, M. (1996). Systematic Determination of Pesticide Residues in Citrus Fruits. *Journal of the food hygienic society of japan* 37: 215-221.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A systematic method for determination of 42 kinds of pesticides (organophosphorus, organonitrogen and pyrethroid pesticide) in citrus fruits was developed. The pesticides were extracted from the citrus fruits with acetone, and the extract was concentrated. After addition of ethyl acetate to the concentrated solution, both acid and basic compounds were removed. The ethyl acetate layer was then subjected to capillary GC with NPD detection after clean-up with a Sep-pak Florisil cartridge. The recoveries of 42 pesticides added to lemon at 0.010etection limits were 0.01 0.2 mug/g.
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-Foods
KEYWORDS: Pest Control
LANGUAGE: jpn

234. Chatfield, Ronald Curtis, Donahue, William Arthur, and Gladney, William Jess (19921202). Flea control using pets as insecticide vectors. 8 pp.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1993:34441
Chemical Abstracts Number: CAN 118:34441
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: EPXXDW
Index Terms: Canis familiaris; Felis catus (as insecticide vector, for flea control); Flea (control of, using pet vectors); Insecticides (flea control by, using pet vectors); Insect hormones and growth regulators; Pyrethrins and Pyrethroids Role: BIOL (Biological study) (flea control by, using pet vectors); Animal (pet, as insecticide vector, for flea control)
CAS Registry Numbers: 63-25-2 (Carbaryl); 78-70-6 (Linalool); 114-26-1 (Propoxur); 115-93-5 (Cythioate); 121-75-5 (Malathion); 138-86-3 (Limonene); 300-76-5 (Naled); 584-79-2 (Bioallethrin); 732-11-6 (Phosmet); 2921-88-2; 10453-86-8 (Resmethrin); 40596-69-8 (Methoprene); 52645-53-1 (Permethrin); 65733-16-6 Role: BIOL (Biological study) (flea control by, using pet vectors)
Reg.Pat.Tr.Des.States: Designated States R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, PT, SE.
Patent Application Country: Application: EP
Priority Application Country: US
Priority Application Number: 91-709003
Priority Application Date: 19910531 Fleas are controlled in the environment of pets, such as bedding and carpets, by using the pet as an insecticide carrier. The insecticide comprises an insect growth regulator, preferably methoprene, and an adulticide, such as a pyrethroid. [on SciFinder

(R)] A01N049-00. A01N053-00; A01N025-00. flea/ insecticide/ pet

235. Chekman, I. S. and Natsiuk, M. V. ([Effect of Dipyroxime on the Concentration of Nicotinamide Coenzymes and Adenylate Nucleotides in the Myocardium and Liver of Rats Poisoned With Phthalophos]. *Biull eksp biol med. 1977, nov; 84(11):577-9. [Biulleten' eksperimental'noi biologii i meditsiny]: Biull Eksp Biol Med*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: Experiments were conducted on rats; in depression of blood cholinesterase activity by 68.6 percent phthalafos proved to decrease the myocardial nicotinamide coenzymes content on account of reduction in the amount of the oxidized forms. In the liver phthalafos diminished the content of oxidized and reduced forms of nicotinamide coenzymes, decreased the level of adenylic nucleotides chiefly at the expense of ATP. Diproxim prevented the changes caused by phthalafos in blood cholinesterase reactivation to 47.5 percent. It is supposed that the capacity of diproxim to normalize the oxidative processes in the cell by acting upon the nicotinamide coenzymes and adenylic nucleotides underlies its antidote action.
MESH HEADINGS: Animals
MESH HEADINGS: Cholinesterases/blood
MESH HEADINGS: Insecticides/*poisoning
MESH HEADINGS: Liver/*analysis
MESH HEADINGS: Male
MESH HEADINGS: Myocardium/*analysis
MESH HEADINGS: NAD/*analysis
MESH HEADINGS: NADP/*analysis
MESH HEADINGS: Oximes/*therapeutic use
MESH HEADINGS: Phosmet/*poisoning
MESH HEADINGS: Rats
MESH HEADINGS: Trimedoxime/*therapeutic use
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Vliianie dipiroksima na soderzhanie nikotinamidnykh kofermentov i adenilovykh nukleotidov v miokarde i pecheni krys, otravlennykh ftalofosom.

236. Chekman, I. S. and Natsyuk, M. V. (The Influence of Dipyroxime on the Content of Nicotinamide Coenzymes and Adenylic Nucleotides in the Myocardium and Liver of Rats Poisoned With Phthalophos. *Biull. Eksp. Biol. Med. 84(11): 577-579 1977 (13 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ABSTRACT: PESTAB. The influence of dipyroxime on the content of nicotinamide coenzymes and adenylic nucleotides in the myocardium and liver of rats poisoned with phthalophos was studied. The concentration of 68.8% phthalophos decreased the myocardial nicotinamide coenzymes content due to a reduction in the amount of the oxidized forms. In the liver phthalophos diminished the content of oxidized and reduced forms of nicotinamide coenzymes, decreasing the level of adenylic nucleotides chiefly at the expense of ATP. Dipyroxime prevented the changes caused by phthalophos in blood cholinesterase reactivation to the extent of 47.5%. It is suggested that the capacity of dipyroxime to normalize the oxidative processes in the cell by acting on the nicotinamide coenzymes and adenylic nucleotides underlies its antidote action.
LANGUAGE: rus

237. Chen, C., Roseberg, R. J., and Selker, J. S. (2002). Using Microsprinkler Irrigation to Reduce Leaching in a Shrink /Swell Clay Soil. *Agricultural Water Management, 54 (2) pp. 159-171, 2002*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0378-3774
Descriptors: Shrink/swell soil
Descriptors: Microsprinkler
Descriptors: Preferential flow

Abstract: Preferential flow allows agricultural chemicals to rapidly move past crop root zone to subsoil, potentially contaminating groundwater. Deep shrinkage cracks in a shrink/swell soil may serve as preferential flow channels. Design and operation of an irrigation system is critical in shrink/swell soils in order to reduce or eliminate preferential flow while providing sufficient water for plant growth. The objective of this study was to compare microsprinkler irrigation (MI) and surface flood irrigation (FI) systems for their ability to reduce preferential flow and chemical leaching through a shrink/swell soil in a pear orchard. The MI system applied water at a rate of 2.8 mm h⁻¹, and the FI followed the traditional orchard irrigation method. Bromide tracer was applied to the pear orchard. Soil cores and percolate samples from passive capillary samplers (PCAPS) installed at 1.2 m depth were collected to test for the presence of Br tracer in the soil and percolate. The MI system greatly decreased water and Br leaching from soil to the PCAPS in comparison to FI. The percolate in MI was nearly zero. Most of the loss of Br occurred in the first one or two FI events. MI systems, such as that used in this study should be considered as an alternative to FI in such shrink /swell soils to reduce macropore flow. (copyright) 2002 Elsevier Science B.V. All rights reserved.
20 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science
Classification: 92.10.3.3 CROP SCIENCE: Tree Growth and Forest Management: Orchards, rootstocks and grafting
Subfile: Plant Science

238. Chen, Chia Chung, Rider, Richard H., and Lo, Ray J (19900718). Inhibition of mercaptan odor in organothiophosphate biocides. 8 pp.
Chem Codes : Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:180364
Chemical Abstracts Number: CAN 114:180364
Section Code: 5-6
Section Title: Agrochemical Bioregulators
Coden: EPXXDW
Index Terms: Alkali metal hydroxides; Alkaline earth hydroxides; Hypochlorites Role: BIOL (Biological study) (mercaptan removal by, from thiophosphate pesticide formulations); Thiols Role: REM (Removal or disposal), PROC (Process) (of thiophosphate pesticide formulations, removal of); Pesticides (thiophosphate, mercaptan removal from formulations of)
CAS Registry Numbers: 1310-73-2 (Sodium hydroxide); 7553-56-2 (Iodine); 7681-52-9; 14900-04-0 (Triiodide) Role: BIOL (Biological study) (mercaptan removal by, from thiophosphate pesticide formulations); 732-11-6; 13194-48-4 (O-Ethyl S,S-dipropylphosphorodithioate); 107346-89-4; 107346-90-7 Role: BIOL (Biological study) (mercaptan removal from formulations of)
Reg.Pat.Tr.Des.States: Designated States R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL.
Patent Application Country: Application: EP
Priority Application Country: US
Priority Application Number: 89-293244
Priority Application Date: 19890104 Mercaptan odors in a thiophosphate are suppressed by treatment during formulation with I, alkali or alk.-earth metal hydroxides, hypochlorites or iodates. Depending on the particular agent and method of treatment used, the agent and any reaction products resulting from the treatment may be either removed from the thiophosphate or retained with it in the final formulation. Formulations of particular interest are granules. I (0.4 g)

was added to 46 g soln. of S,S-di-tert-Bu methylphosphorothioate in arom. solvent, followed by treatment with 12 g dipropylene glycol and application to 142 g granular montmorillonite. The product was free of mercaptan, as shown by the CuSO4 test, Draeger tube test and gas chromatog. [on SciFinder (R)] A01N057-02. mercaptan/ removal/ thiophosphate/ pesticide

239. Chen, Guang , Zhang, Chao, Frankel, David, Bushway, Rodney , and Vetelino, John F (2001). The application of a bulk acoustic wave sensor for pesticide detection in liquids. *Proceedings - Electrochemical Society* 2001-18: 116-120.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:825838
Chemical Abstracts Number: CAN 138:20844
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Liquids (bulk acoustic wave sensor for pesticide detection in); Sensors (bulk acoustic wave sensor for pesticide detection in liqs.)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (bulk acoustic wave sensor for detection in liqs. of)
Citations: 1) Biros, F; Advances in Chemistry Series 1971, 104
Citations: 2) Sherma, J; Analytical Chemistry 1983, 55
Citations: 3) Stan, H; Anal Chem 1977, 287, 271
Citations: 4) Scheide, E; Analytical Chemistry 1972, 44, 1764
Citations: 5) Worthing, C; The Pesticide Manual: a world compendium-6th ed 1979, 666
Citations: 6) McGill, R; Chemitech 1994, 27 The widespread use of pesticides on com. food crops can result in short and long term health problems for farm workers and consumers as well as serious impacts on the environment. In the present study, a sensor consisting of a polymer coated quartz crystal microbalance (QCM) has been used to detect the pesticide phosmet (C11H12NO4PS2) in the liq. phase at concns. in the parts-per-million range. Phosmet is a pesticide routinely used on wild blueberries and other fruits. [on SciFinder (R)] 0161-6374 acoustic/ wave/ sensor/ pesticide/ liq

240. Chen, Junshi and Gao, Junquan (1993). The Chinese total diet study in 1990. Part I. Chemical contaminants. *Journal of AOAC International* 76: 1193-205.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:162489
Chemical Abstracts Number: CAN 120:162489
Section Code: 18-7
Section Title: Animal Nutrition
Document Type: Journal
Language: written in English.
Index Terms: Food contamination (by chems., in China); Diet (chem. contaminants of Chinese); Pesticides (in Chinese diet); Radioelements Role: BIOL (Biological study) (in Chinese diet); Trace elements Role: BIOL (Biological study) (heavy metals, in Chinese diet)
CAS Registry Numbers: 50-29-3 (DDT); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (HCH); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 298-04-4 (Disulfoton); 732-11-6 (Phosmet); 1162-65-8 (Aflatoxin B1); 6795-23-9 (Aflatoxin M1); 7439-92-1 (Lead); 7439-97-6 (Mercury); 7440-43-9 (Cadmium); 10045-97-3 (137Cs); 10098-97-2 (90Sr); 10265-92-6 (Methamidophos); 14255-04-0 (Pb-210); 15262-20-1 (Ra-228); 15756-71-5 (Ra-220); 30560-19-1

(Acephate); 51712-33-5 (Po-226) Role: BIOL (Biological study) (in Chinese diet) The Chinese total diet study in 1990 estd. the dietary intake of 24 chem. contaminants and 72 nutrients from 4 market baskets collected and prepd. in 12 provinces. Twelve food group composites were made for each regional market basket. The overall dietary Pb, Cd, Hg, hexachlorocyclohexane HCH, and DDT intakes were well below their corresponding acceptable daily intakes. However, the Pb content of eggs from the 2 southern regions exceeded the tolerance limit. The Hg content of legumes just reached the tolerance limit, and Hg in eggs from the North 1 region exceeded the tolerance limit. The dietary HCH intake has increased significantly since the 1980s, but dietary DDT intake has decreased rather slowly. Five organophosphorus pesticides were detected out of a total of 12 organophosphorus pesticides analyzed. Among them, methamidophos was the most outstanding. The intake of total committed dose equiv. (CDEs) of the 6 radionuclides was 0.24 mSv/a; only 1.5% was accounted for by 90Sr and 137Cs. 210Pb, 210Po, 226Ra, and 228Ra accounted for 98.5% of the total CDEs. The main food sources of those radionuclides were cereals, vegetables, and aquatic foods. Aflatoxin B1 was detected at very low levels only in the cereal composite of the North 1 region. Aflatoxin M1 was not detected in any of the milk and milk products. The overall results show that there is no significant environmental contamination of the av. Chinese diet. [on SciFinder (R)] 1060-3271 pesticide/ aflatoxin/ radionuclide/ metal/ diet/ China

241. Chen, Ker-Sang, Funke, B. R., Schulz, J. T., Carlson, R. B., and Proshold, F. I (1974). Effects of certain organophosphate and carbamate insecticides on bacillus thuringiensis. *Journal of Economic Entomology* 67: 471-3.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1974:564715
Chemical Abstracts Number: CAN 81:164715
Section Code: 5-4
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (Bacillus thuringiensis insecticidal activity in relation to); Heliothis virescens (control of, by Bacillus thuringiensis and insecticides); Bacillus thuringiensis (insecticidal activity of, insecticides in relation to)
CAS Registry Numbers: 52-68-6; 63-25-2; 114-26-1; 732-11-6; 1563-66-2; 16752-77-5; 22248-79-9 Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study) (Bacillus thuringiensis insecticidal activity in relation to) Seven organophosphate and carbamate insecticides were tested on 2 com. prepns. of B. thuringiensis, Biotrol XK and Biotrol BTB. On inert surfaces carbaryl [63-25-2] and stirophos [22248-79-9] decreased viability of spores from Biotrol XK prepns., but propoxur [114-26-1] enhanced spore survival. Prepns. of Biotrol BTB were tested similarly but none of the chemicals had an effect on survival of these spores. Trichlorfon [52-68-6], phosmet [732-11-6], methomyl [16752-77-5], carbofuran [1563-66-2] had no effect on either prepn. The susceptibility of tobacco budworm, (Heliothis virescens), to Biotrol XK in combination with chem. insecticide larvae was detd. Carbaryl was clearly synergistic; methomyl, phosmet, and carbofuran were synergistic but significance was marginal. Stirophos was antagonistic; trichlorfon and propoxur had no significant effect. [on SciFinder (R)] 0022-0493 carbaryl/ stirophos/ propoxur/ trichlorfon/ Biotrol;/ Biotrol/ insecticide/ tobacco/ budworm;/ Heliothis/ Bacillus/ thuringiensis/ insecticide;/ phosmet/ methomyl/ carbofuran/ Bacillus/ thuringiensis;/ tobacco/ budworm/ Bacillus/ thuringiensis/ insecticide;/ biol/ control/ insecticides

242. Chen, S. C. , Zhang, X. P., Ni, S. F., Fu, C. X., and Cameron, K. M. (2006). The Systematic Value of Pollen Morphology in Smilacaceae. *Plant Systematics and Evolution, 259 (1) pp. 19-37, 2006*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0378-2697
Descriptors: Smilacaceae
Descriptors: Pollen morphology
Descriptors: SEM
Descriptors: TEM
Descriptors: Phylogenetic
Descriptors: Taxonomy
Abstract: Smilacaceae are a small family of dioecious, mostly climbing, net-veined monocotyledons with a cosmopolitan distribution. Relatively little is known about the variation of pollen morphology within the family. For this reason, and to investigate the systematic value of palynology in Smilacaceae, pollen from 125 species of Smilax, Heterosmilax, and Ripogonum was examined using light and scanning electron microscopy. Ten of these were examined further by transmission electron microscopy. Four distinct pollen types grouped into two major pollen classes were distinguished: Class 1, represented by the pollen of all Smilax and Heterosmilax species, is mostly spheroidal, inaperturate, and spinulate or microspinulate, with a thin, fragile exine of varied sculpturing; three pollen types are represented within this class. Class 2 is found only in Ripogonum and contains a single pollen type with prolate, monosulcate, reticulately-sculptured pollen. The unique pollen morphology of Ripogonum supports its removal from Smilacaceae. In contrast, the characteristics of Heterosmilax pollen intergrade with those seen in Smilax, suggesting that the former might be better reduced to synonymy with the latter. A key to the identification of these pollen types is presented along with a discussion of geographic and possible evolutionary trends among them. (copyright) Springer-Verlag 2006.
45 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Austria
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Subfile: Plant Science

243. Chen, Zongmao and Wan, Haibin (1988). Factors affecting residues of pesticides in tea. *Pesticide Science* 23: 109-18.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Database: CAPLUS
Accession Number: AN 1988:491413
Chemical Abstracts Number: CAN 109:91413
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal; General Review
Language: written in English.
Index Terms: Food contamination (by pesticides, of tea); Tea products (pesticides of, factors affecting); Pesticides (tea contamination by); Tea products (beverages, pesticides of, factors affecting)
CAS Registry Numbers: 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 115-32-2 (Dicofol); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 563-12-2 (Ethion); 732-11-6 (Phosmet); 1113-02-6 (Omethoate); 6164-98-3 (Chlordimeform); 8065-48-3 (Demeton); 13593-03-8 (Quinalphos); 14816-18-3; 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 82657-04-3 (Bifenthrin) Role: BIOL (Biological study) (tea contamination by) The residue behavior of 17 pesticides on tea, is reviewed. Sunlight photolysis and growth diln. were the most important factors affecting pesticide persistence in the growing tea plant, while vapor pressure played an important role in loss of pesticide residues during tea processing. The percentage of pesticide extd. during the tea infusion process was highly related to

water soly. It is suggested that in studies on pesticide residue behavior on tea, all the four factors should be considered integrally. [on SciFinder (R)] 0031-613X review/ tea/ pesticide/ residue;/ tea/ pesticide/ residue

244. Chen, Zongmao, Zabik, Matthew J., and Leavitt, Richard A (1984). Comparative study of thin film photodegradative rates for 36 pesticides. *Industrial & Engineering Chemistry Product Research and Development* 23: 5-11.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1984:81216
Chemical Abstracts Number: CAN 100:81216
Section Code: 5-6
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Kinetics of photolysis; Photolysis (of pesticides, in thin films); Pesticides (photodegrdn. rate consts. and half lives of, in thin films); Degradation (photochem., of pesticides, in thin films)
CAS Registry Numbers: 13593-03-8 Role: BIOL (Biological study) (photodegrdn. rate consts. and half life of, in thin films); 50-29-3; 55-38-9; 56-38-2; 58-89-9; 60-51-5; 60-57-1; 62-73-7; 63-25-2; 72-55-9; 115-32-2; 121-75-5; 122-14-5; 122-34-9; 139-40-2; 298-00-0; 309-00-2; 319-84-6; 319-85-7; 319-86-8; 563-12-2; 732-11-6; 1563-66-2; 1912-24-9; 1912-26-1; 2310-17-0; 2921-88-2; 7786-34-7; 16752-77-5; 23135-22-0; 51630-58-1; 52918-63-5; 61949-76-6; 61949-77-7; 65731-84-2 Role: BIOL (Biological study) (photodegrdn. rate consts. and half live of, in thin films) The photodegrdn. rate const. and half-life for 36 pesticides (including the organochlorine, organophosphorus, carbamate, triazine, and pyrethroid pesticides) at 3 different concn. levels (0.67, 3.3, and 6.7 mg/cm2) was detd. at the environmentally important wavelengths. The rate consts. ranged from 265.2 +- 12.8 10-7 s-1 (Dichlorvos [62-73-7], 0.67 mg/cm2) to 9.3 +- 1.2 * 10-7 s-1 (p,p--DDE [72-55-9], 0.67 mg/cm2). The rate consts. began to decrease when the concn. of the pesticides on glass plates reached a certain concn. level. The mechanism for the variation of the rate const. is discussed from the viewpoint of the thickness of the pesticide mol. layer on the plates. There were no significant relationships between the extinction coeffs. in the 295-305 nm wavelength range and the photodegrdn. rate for the various pesticides. [on SciFinder (R)] 0196-4321 pesticide/ photodegrdn/ kinetics/ thin/ film

245. Cherng, A. P. (2000). Vibration Modes of Melons of Ellipsoidal Shape. *Transactions of the American Society of Agricultural Engineers, 43 (5) pp. 1185-1193, 2000.*
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ISSN: 0001-2351
Descriptors: Ellipsoid of revolution
Descriptors: Experimental modal analysis
Descriptors: Finite element analysis
Abstract: This article presents modeling and experimental analyses on the vibrations of agricultural products of ellipsoidal shape, such as watermelon and cantaloupe. Since watermelon is solid while cantaloupe is hollow, different vibration characteristics are expected. Finite element (FE) models of watermelon and cantaloupe were first generated based on measured geometry: It was found that their mode shapes resemble those of spherical models. Comparisons of FE and experimental modal parameters show that both results agree well in mode shapes as well as natural frequencies. A significant difference between the two types of melons is the order of modes. The first mode of watermelon is a pure compression mode while the second mode a prolate/oblate mode, when viewed from the circular cross-section. However, these two modes are reversed for the cantaloupe. Simple and effective rules are thus proposed to distinguish them. The results of this work reveal that the vibrations of ellipsoidal fruits are more complicated and also different

from those of spherical ones.
34 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.10.2.5 CROP SCIENCE: Agronomy and Horticulture: Fruit and nuts
Classification: 92.10.3.2 CROP SCIENCE: Tree Growth and Forest Management: Agroforestry
Classification: 92.16.3 TECHNIQUES: Modelling
Subfile: Plant Science

246. Cherng, An-Pan, Ouyang, Feng, Blot, Lilian, and Zwiggelaar, Reyer (2005). An Estimation of Firmness for Solid Ellipsoidal Fruits. *Biosystems Engineering* 91: 257-259.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

This paper deals with a non-destructive firmness estimation method using vibrational characteristics for solid fruits of oblate ellipsoidal shape. In association with the previous work, a general estimation formula is proposed, which is suitable for both prolate and oblate solid ellipsoids. The applicable range of the new firmness index is at least between axis ratio of 0[middle dot]4 and 2[middle dot]0 from finite element simulations.
http://www.sciencedirect.com/science/article/B6WXV-4G4PBXC-1/2/71a02fe61107979753d541be7ea7e290

247. Chiba, Mikio (1981). A rapid colorimetric method for analysis of carbaryl spray deposits on fruit tree foliage. *Journal of Agricultural and Food Chemistry* 29: 118-21.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1981:59620
Chemical Abstracts Number: CAN 94:59620
Section Code: 5-1
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
CAS Registry Numbers: 63-25-2 Role: ANT (Analyte), ANST (Analytical study) (detn. of, colorimetric) A rapid colorimetric method is developed to det. deposits of carbaryl (I) [63-25-2] insecticide on fruit tree foliage. Analyses take <3 min/sample when 50 or more samples are processed at a time. A 5 cm2 disk punched from a leaf is used for the detn. I is extd. and hydrolyzed by methanolic NaOH (0.03%) and then coupled with p-nitrobenzenediazonium tetrafluoroborate, which produces a spectrum of colors ranging from red to blue. In a concn. range of 0.5 10 mg/cm2 of leaf surface or 0.25-5 mg/mL of alk. soln. in a test tube, the color absorbance obeys Beer's law when measured at 580 nm. Little, if any, interference is obsd. from other commonly used pesticides, such as dicofol, tetradifon, azinphosmethyl, phosmet, captan, and folpet. If a spectrophotometer is not available, or when a rapid field test is required, a semiquant. detn. is also possible. [on SciFinder (R)] 0021-8561 carbaryl/ colorimetric/ detn

248. Chiba, Mikio (1979). Use of ammonium or potassium dihydrogen phosphate to protect pesticides in spray mixtures prepared with alkaline waters. *Journal of Agricultural and Food Chemistry* 27: 1023-6.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1979:535586
Chemical Abstracts Number: CAN 91:135586

Section Code: 5-13
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (alk. hydrolysis of, ammonium or potassium dihydrogen phosphate control of)
CAS Registry Numbers: 7722-76-1; 7778-77-0 Role: BIOL (Biological study) (alk. hydrolysis of pesticides control with); 60-51-5; 63-25-2; 86-50-0; 121-75-5; 732-11-6; 4685-14-7; 9006-42-2 Role: RCT (Reactant), RACT (Reactant or reagent) (alk. hydrolysis of, in spray compns., buffers for control of) A practical procedure was developed to decrease alk. hydrolysis of pesticides in spray tanks when naturally alk. waters are used. Natural alk. water samples collected from the Holland Marsh area and Niagara Region in Ontario, Canada had pH values in the range of 7.60-9.68, and their buffer capacity ranged from 0.21 * 10-3 to 2.00 * 10-3M. Adding 0.5 g of NH4H2PO4 or KH2PO4 per L of water lowered the pH of all samples tested to 6.7. The majority of pesticides are most stable at this pH and the probability of alk. hydrolysis occurring can be reduced by this simple procedure. [on SciFinder (R)] 0021-8561 pesticide/ hydrolysis/ buffer/ alk/ water

249. Chiou, Cary T., Freed, Virgil H., Schmedding, David W., and Kohnert, Rodger L (1977). Partition coefficient and bioaccumulation of selected organic chemicals. *Environmental Science and Technology* 11: 475-8.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1977:184193
Chemical Abstracts Number: CAN 86:184193
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (bioaccumulation and partition coeff. of); Aromatic hydrocarbons; Hydrocarbons Role: PRP (Properties) (bioaccumulation and partition coeff. of); Partition (of org. chem., between octanol and water, bioaccumulation in relation to)
CAS Registry Numbers: 50-29-3; 56-23-5; 56-38-2; 65-85-0; 67-66-3; 69-72-7; 71-43-2; 72-55-9; 91-20-3; 92-52-4D; 94-75-7; 97-17-6; 101-84-8; 103-82-2; 106-46-7; 108-86-1; 108-88-3; 108-90-7; 121-75-5; 122-14-5; 122-59-8; 127-18-4; 299-84-3; 462-06-6; 591-50-4; 732-11-6; 2050-68-2; 2310-17-0; 2463-84-5; 2921-88-2; 5598-13-0; 10311-84-9; 21609-90-5; 35065-27-1; 37680-73-2 Role: PRP (Properties) (bioaccumulation and partition coeff. of); 111-87-5 Role: PRP (Properties) (org. compds. partition between water and, bioaccumulation in relation to) An empirical equation was established to relate the exptl. n-octanol [111-87-5]/water partition coeffs. to the aq. solubilities of a wide variety of chems. including aliph. and arom. hydrocarbons, arom. acids, organochlorine and organophosphate pesticides, and polychlorinated biphenyls. Such a correlation, covering more than 8 orders of magnitude in solubility (from 10-3 to 104 ppm) and 6 orders of magnitude in partition coeff. (from 10 to 107), allows an assessment of partition coeff. from solubility with a predicted error of less than 1 order of magnitude. A correlation was obsd. between the bioconcn. factors in rainbow trout and the aq. solubilities for some stable org. compds. [on SciFinder (R)] 0013-936X org/ chem/ bioaccumulation/ partition/ coeff

250. Choi, Kyung H., Morais, Marc C., Anderson, Dwight L., and Rossmann, Michael G. (2006). Determinants of Bacteriophage [phi]29 Head Morphology. *Structure* 14: 1723-1727.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: VIRUS.

Summary Bacteriophage [phi]29 requires scaffolding protein to assemble the 450 x 540 A prolate prohead with T = 3 symmetry end caps. In infections with a temperature-sensitive mutant scaffolding protein, capsids assemble predominantly into 370 A diameter isometric particles with

T = 3 symmetry that lack a head-tail connector. However, a few larger, 430 A diameter, particles are also assembled. Cryo-electron microscopy shows that these larger particles are icosahedral with T = 4 symmetry. The prolate prohead, as well as the two isometric capsids with T = 3 and T = 4 symmetry, are composed of similar pentamers and differently skewed hexamers. The skewing of the hexamers in the equatorial region of proheads and in the T = 4 isometric particles reflects their different environments. One of the functions of the scaffolding protein, present in the prohead, may be to stabilize skewed hexamers during assembly.
http://www.sciencedirect.com/science/article/B6VSR-4MBK9HV-H/2/c86de94baee87e3aa2273ca8cd08bf03

251. Christensen, H. B., Poulsen, M. E., and Pedersen, M (2003). Estimation of the uncertainty in a multiresidue method for the determination of pesticide residues in fruit and vegetables. *Food Additives & Contaminants* 20: 764-775.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:732983
Chemical Abstracts Number: CAN 140:76139
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Daucus carota; Food analysis; Food contamination; Fragaria; Fruit; Lactuca sativa; Malus pumila; Pesticides; Solanum tuberosum; Vegetable (estn. of uncertainty in a multiresidue method for detn. of pesticide residues in fruit and vegetables)
CAS Registry Numbers: 50-29-3 (DDT); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (DDD); 72-55-9 (DDE); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 87-86-5 (Pentachlorophenol); 90-43-7 (2-Phenylphenol); 92-52-4 (Biphenyl); 99-30-9 (Dichloran); 101-21-3 (Chloropropham); 107-49-3 (TEPP); 116-29-0 (Tetradifon); 117-18-0; 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 133-06-2 (Captan); 133-07-3 (Folpet); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 299-84-3 (Fenchlorphos); 301-12-2; 319-84-6 (a-HCH); 319-85-7 (b-HCH); 327-98-0 (Trichloronat); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 510-15-6 (Chlorobenzilate); 527-20-8 (Pentachloroaniline); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 640-15-3 (Thiometon); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 919-86-8 (Demeton-S-methyl); 950-37-8 (Methidathion); 959-98-8 (Endosulfan A); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1646-88-4 (Aldicarb sulfone); 1825-19-0 (Pentachlorothioanisole); 1825-21-4 (Pentachloroanisole); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2104-96-3 (Bromophos); 2227-13-6 (Tetrasul); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2425-06-1 (Captafol); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3689-24-5 (Sulfotep); 4824-78-6 (Bromophos-ethyl); 5131-24-8 (Ditalimfos); 5598-13-0; 5836-10-2 (Chloropropylate); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10311-84-9 (Dialiphos); 13171-21-6 (Phosphamidon); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 17040-19-6 (Demeton-S-methyl sulfone); 18181-70-9; 18181-80-1 (Bromopropylate); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 28044-83-9 (trans-Heptachlor epoxide); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan B); 34643-46-4 (Prothiophos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 41483-43-6 (Bupirimate); 43121-43-3 (Triadimefon); 50471-44-8

(Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55285-14-8 (Carbosulfan); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66246-88-6 (Penconazole); 67306-00-7 (Fenpropidin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71283-80-2; 74070-46-5 (Aclonifen); 74115-24-5 (Clofentezine); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 88671-89-0 (Myclobutanil); 91465-08-6; 102851-06-9 (Tau-fluvalinate); 107534-96-3 (Tebuconazole); 119446-68-3 (Difenoconazole); 121552-61-2 (Cyprodinil); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 141517-21-7 (Trifloxystrobin); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (estn. of uncertainty in a multiresidue method for detn. of pesticide residues in fruit and vegetables)
Citations: Alder, L; Journal of AOAC International 2001, 84, 1569
Citations: Anon; ISO 1994, 5725-2:1994
Citations: Anon; ISO 2000, 17025:1999
Citations: Anon; Quantifying Uncertainty in Analytical Measurement, 2nd edn (EURACHEM/CITAC) 1st Gallery 2000
Citations: Bettencourt da Silva, R; Analyst 2001, 126, 743
Citations: Brix, R; Analyst 2002, 127, 140
Citations: Cuadros-Rodriguezs, L; Analytica Chimica Acta 2002, 454, 297
Citations: Ellison, S; Analyst 1998, 123, 1387
Citations: Fussel, R; Oral presentation at the European Pesticide Residue Workshop 2002
Citations: Hill, A; Quality Control Procedures for Pesticide Residue Analysis. Guidelines for Residues Monitoring in the European Union 1997, Document 7826/VI/97
Citations: Horwitz, W; Analytical Chemistry 1982, 54, 67A
Citations: International Organisation for Standardisation; Guide to the Expression of Uncertainty in Measurement (GUM) 1993
Citations: Linsinger, T; Analyst 2001, 126, 211
Citations: Poulsen, M; Principles and Practices of Method Validation 2000, 108 The estn. of uncertainty of an anal. result has become important in anal. chem. It is esp. difficult to det. uncertainties for multiresidue methods, e.g. for pesticides in fruit and vegetables, as the varieties of pesticide/commodity combinations are many. In the present study, recommendations from the International Organization for Standardisation's (ISO) Guide to the Expression of Uncertainty and the EURACHEM/CITAC guide Quantifying Uncertainty in Anal. Measurements were followed to est. the expanded uncertainties for 153 pesticides in fruit and vegetables. Data from inhouse validation were used in the estn. of the uncertainty. No significant difference in the relative std. deviation for reproducibility (RSDR) were found between the different concn. levels at concn. levels exceeding 2.5 times the detection limit. Therefore, it was possible to pool the RSDR within a single matrix. However, a difference in RSDR between matrixes was seen, thus the poorest RSDR of the investigated matrixes was chosen for the uncertainty estn. The expanded uncertainties ranged from 7 to 78% with an av. of 32% and median of 32%. Furthermore, only RSDR contributed to the uncertainty estn. [on SciFinder (R)] 0265-203X pesticide/ residue/ detn/ fruit/ vegetable/ uncertainty

252. Christensen, T. C. and Christensen, A. G. (Undersoegelse Af Aeldre Kulflyveaskedeponi. Appendix I. Undersoegelse Af Stofudvaskningen. Historisk Redegoerelse for Deponiernes Udvikling. Geologiske Og Hydrogeologiske Forhold. Tidsudviklingen Af Perkolatsammensaetning. (Investigation of Older Deposits of Fly Ash From Coal Combustion. Supplement. *Govt reports announcements & index (gra&i), issue 06, 1992*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: Results of an investigation of the current extent of leaching of chemical substances from gamle deposits for fly ash and the composition of the percolates are presented. Water samples from borings have been analysed so that the percolating processes in the new and the old deposits of fly ash can be compared. (AB). In Danish. EFP-89.

KEYWORDS: Fly Ash
KEYWORDS: Waste Storage
KEYWORDS: Foreign technology

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Chem Codes: Chemical of Concern: PSM Rejection Code: METHODS, MODELING.

The volume scattering strength of swim-bladdered fish is very sensitive to fish size, shape, and orientation. However, the appropriate geometrical and behavioral parameters necessary to determine these parameters are not always available. Inadequate knowledge of these parameters limits our ability to correctly estimate lengths and abundances of fish with acoustic technology. A method for extracting geometrical and behavioral parameters of individual fish using a scattering model-based echo-trace-analysis (ETA) is presented. The scattering model used in the ETA is based on the Kirchhoff approximation and a prolate spheroid is used to approximate the shape of the swimbladder. The geometric shape of a resolved echo from an individual fish is used in a least-squares algorithm to infer information about the swimming speed, direction, and orientation of the fish. The acoustic intensity distribution of an individual fish along a resolved echo trace is used in a least-squares algorithm to infer information about the size, aspect ratio, and orientation of the swimbladder. Results from the ETA were more sensitive to variations in vertical swimming speed and orientation of the swimbladder than to variations in horizontal swimming speed and aspect ratio of the swimbladder. The proposed ETA was applied to field data, a 38 kHz echogram of a school of Atlantic cod recorded with a Simrad EK500 echo sounder. The inferred sizes and orientations of a number of the resolved echo traces for individual fish were consistent with available observation data. One of the advantages of the ETA method presented here is that it can be easily extended to a dual beam, a split-beam, or a multi-beam acoustic system. Acoustics/ Echo trace/ Backscattering/ Fish/ Swimbladder http://www.sciencedirect.com/science/article/B6VGB-4894B16-3/2/67f93334562fd5e973a0304d31f922d7

254. Chun, Ock Kyoung, Kang, Hee Gon, and Kim, Myung Hee (2003). Multiresidue method for the determination of pesticides in Korean domestic crops by gas chromatography/mass selective detection. *Journal of AOAC International* 86: 823-831.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:716983
Chemical Abstracts Number: CAN 139:395026
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; multiresidue method for detn. of pesticides in Korean domestic crops by gas chromatog./mass selective detection); Gas chromatography (mass spectrometry combined with; multiresidue method for detn. of pesticides in Korean domestic crops by gas chromatog./mass selective detection); Chrysanthemum coronarium; Food contamination; Lactuca sativa; Perilla japonica; Pesticides (multiresidue method for detn. of pesticides in Korean domestic crops by gas chromatog./mass selective detection)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 99-30-9 (Dicloran); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 133-07-3 (Folpet); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 510-15-6

(Chlorobenzilate); 563-12-2 (Ethion); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 886-50-0 (Terbutryn); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (a-Endosulfan); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1582-09-8 (Trifluralin); 1897-45-6 (Chlorothalonil); 1929-82-4 (Nitrapyrin); 2104-64-5 (EPN); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2597-03-7 (Phenthoate); 2921-88-2 (Chlorpyrifos); 5234-68-4 (Carboxin); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 15299-99-7 (Napropamide); 15972-60-8 (Alachlor); 17109-49-8 (Edifenphos); 18181-80-1 (Bromopropylate); 19666-30-9 (Oxadiazon); 21087-64-9 (Metribuzin); 22224-92-6 (Fenamiphos); 23505-41-1 (Pirimiphos-ethyl); 24579-73-5 (Propamocarb); 26087-47-8 (Iprobenfos); 27314-13-2 (Norflurazon); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 35554-44-0 (Imazalil); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 51218-45-2 (Metolachlor); 51338-27-3 (Diclofop-methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 55283-68-6 (Ethalfluralin); 55290-64-7 (Dimethipin); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 66246-88-6 (Penconazole); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68694-11-1 (Triflumizole); 69409-94-5 (Fluvalinate); 77732-09-3 (Oxadixyl); 82657-04-3 (Bifenthrin); 85509-19-9 (Flusilazole); 89784-60-1 (Pyraclofos); 94361-06-5 (Cyproconazole); 96489-71-3 (Pyridaben); 107534-96-3 (Tebuconazole); 110235-47-7 (Mepanipyrim); 119168-77-3 (Tebufenpyrad); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 122453-73-0 (Chlorfenapyr) Role: ANT (Analyte), ARG (Analytical reagent use), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence), USES (Uses) (multiresidue method for detn. of pesticides in Korean domestic crops by gas chromatog./mass selective detection)
Citations: 1) Luke, M; J Assoc Off Anal Chem 1981, 64, 1187
Citations: 2) Lee, S; Fresenius Z Anal Chem 1991, 339, 376
Citations: 3) Fillion, J; J AOAC Int 2000, 83, 698
Citations: 4) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 5) Liao, W; J AOAC Int 1991, 74, 554
Citations: 6) Lehotay, S; J AOAC Int 1995, 78, 821
Citations: 7) Kawasaki, M; J Food Hyg Soc Jpn 1994, 35, 479
Citations: 8) Colume, A; J Agric Food Chem 2001, 49, 1109
Citations: 9) Adou, K; J Agric Food Chem 2001, 49, 4153
Citations: 10) Lacassie, E; J Chromatogr A 1998, 805, 319
Citations: 11) Cheng, C; J Food Drug Anal 1994, 2, 113
Citations: 12) Cho, T; Report of S I H E 2000, 36, 157 The multiresidue method used in this study allows the detn. of 101 pesticides, including organophosphorus, organochlorine, and nitrogen-contg. pesticides, in crops by gas chromatog. with mass selective detector. Anal. was performed in the selected-ion monitoring mode, and the identities of the pos. analytes were confirmed by retention time and the ratios of selected ions. The selected ion mode demonstrated an acceptable selectivity for most of the pesticides detd. in 3 kinds of samples (Chrysanthemum coronarium; Perilla japonica, leaf; and Lactuca sativa, which are very popular vegetables eaten raw in Korea), and very minor interferences were obsd. in the elution area of the pesticide analytes. Samples were spiked with pesticides at 0.1-1.0 mg/kg. The recoveries of 90% of the pesticides were between 70 and 110%; however, the recoveries of acephate and folpet were very poor, i.e., <50%. The limits of detection (LODs) for most pesticides were between 0.02 and 0.3 mg/kg, and the LODs for about half of the pesticides studied were <0.05 mg/kg. [on SciFinder (R)] 1060-3271
pesticide/ detn/ Chrysanthemum/ Perilla/ Lactuca/ GC/ MS

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<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

The equilibrium between Cu2+, copper metal and Cu+ ion has been studied, at 25[degree sign]C in a series of (Na)ClO4 as well as (Na2)SO4 ionic media, by passing Cu2+ solutions through a column of finely divided copper metal. In the effluent liquid phase, which was made to percolate at a rate low enough for equilibrium to be attained. the number of equivalents of reducing agent was determined by constant-current coulometry. The measurements were performed in 0.5, 1.2 and 3 M ClO4-, and 0.1, 0.2, 0.4 and 1 M SO42- ionic media. From the experimental data the equilibrium constant at infinite dilution log K0-5.73+/-0.03, for Cu2++Cu(s)[right arrow over left arrow]Cu+, has been evaluated by applying the specific interaction theory [15-17]. The standard potentials of the half-reactions involving the Cu+ ion have also been recalculated.
http://www.sciencedirect.com/science/article/B758S-48MXDR6-VT/2/065a9718d50ff4a0b5e95fd126a45fbc

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Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0011-183X
Abstract: The general public is concerned about potential environmental impacts of agrochemicals applied to turfgrass. It is especially important that certain industry standard turfgrass systems, such as USGA greens, be evaluated for potential environmental impact. The objective of this study was to assess the mobility and persistence of chlorpyrifos (O,O-diethyl-O-3,5,6-trichloro-2-pyridyl phosphorothioate), isazophos[O-[5-chloro-1-(methylethyl)-1H-1,2,4-triazol-3yl] O,O-diethyl phosphorothioate], isofenphos [1-methylethyl 2-[[ethoxy(1-methylethyl) amino] phosphinothioyl]oxy] benzoate], and ethoprop (O-ethyl S,S-dipropylphosphorodithioate) applied to a USGA cv. Tifdwarf bermudagrass (Cynodon dactylon x C. transvaalensis Burtt-Davy) green. The quantity of each organophosphate (OP) pesticide in turf clippings, thatch, soil, and percolate was determined over two application cycles, with the exception of ethoprop which was applied once. Pesticide recovery in clippings after a single application of fenamiphos (ethyl 3-methyl-4(methylthio)phenyl (1-methylethyl)phosphoramidate) and fonofos (O-ethyl-S-phenyl ethylphosphonodithioate) was determined, in addition to the above mentioned OP pesticides. For liquid formulations, less than 1% of the OP pesticides applied were found in clippings. However, nearly 8% of chlorpyrifos and 1.2% of fonofos was removed in clippings after a granular application. Total average pesticide removed in clippings after granular applications of ethoprop, chlorpyrifos, fenamiphos, and fonofos were 9.9, 9.2, 5.1, and 4.3 mg m superior - superior 2, respectively, while the largest amount from a liquid application of pesticide removed in clippings was 2.0 mg m superior - superior 2 of isofenphos. Less than 0.1% of the OP pesticides applied to the USGA green were recovered in percolate water, regardless of substantial variations in rainfall and total percolation. Most of the applied OP pesticides appeared to be retained in the thatch layer, where presumably they were microbially degraded over time.
18 refs.
Language: English
English
Publication Type: Journal
Publication Type: Conference Paper
Country of Publication: United States
Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues
Subfile: Plant Science

257. Clapp, J. G. Jr. and Parham, T. M. Jr (1994). Trisert-CB (26-0-0-0.5B) fertilizer solution as a carrier for insecticides. *Proceedings - Beltwide Cotton Conferences* 951-2.
Chem Codes: Chemical of Concern: PSM Rejection Code: METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:598517

Chemical Abstracts Number: CAN 121:198517
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 19
Document Type: Journal
Language: written in English.
Index Terms: Fertilizers Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (boron-nitrogen; compatibility of Trisert-CB fertilizer soln. with liq. insecticides); Insecticides (compatibility of Trisert-CB fertilizer soln. with liq. insecticides)
CAS Registry Numbers: 86-50-0 (Guthion); 732-11-6 (Imidan); 35400-43-2 (Bolstar); 66841-25-6 (Scout); 68359-37-5 (Baythroid); 82657-04-3 (Capture); 91465-08-6 (Karate); 136797-67-6 (Trisert-cb) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (compatibility of Trisert-CB fertilizer soln. with liq. insecticides) Seven liq. insecticides mixed with Trisert-CB (fertilizer soln. contg. triazone N and B) in the lab showed phase sepn., but the blend could be re-established with min. sepn. Trisert-CB showed better phys. compatibility with insecticides than urea. In the field, Trisert-CB was suitable as an additive for low-vol. ground insecticide applications, or as a carrier for ultralow-vol. aerial insecticide sprays. [on SciFinder (R)] 1059-2644 Trisert/ CB/ fertilizer/ soln/ insecticide/ compatibility

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Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOX DATA.

ISSN: 0034-6667
Descriptors: Fabales
Descriptors: pollen morphology
Descriptors: Quillaja
Descriptors: Recchia
Descriptors: Guilfoylia
Descriptors: Cadellia
Descriptors: Suriana
Descriptors: Stylobasium
Descriptors: Surianaceae
Abstract: The Fabales clade comprises four families: Leguminosae, Polygalaceae, Quillajaceae and Surianaceae. This study presents new information on the pollen morphology of Quillaja, the only genus of Quillajaceae, and Recchia, Guilfoylia, Cadellia, Suriana and Stylobasium, the five genera that comprise Surianaceae. The pollen of 9 of the 11 species currently recognised within the two families was examined using light microscopy (LM), scanning electron microscopy (SEM) and, selectively, with transmission electron microscopy (TEM). Pollen of all taxa is isopolar with tri-zonocolporate apertures, lalongate endoapertures with fastigia adjacent to the endoaperture, and long ectoapertures that are nearly equal to the polar length. Apocolpia are correspondingly small. Quillaja pollen is subprolate to prolate, and striate with a granular aperture surface membrane. Ectexine protrudes over the endoapertures. In thin section the foot layer is thicker in mesocolpial areas and thin to discontinuous around the apertures, where the endexine is thicker. Cadellia pollen is prolate spheroidal, and striate with a granular aperture surface membrane. Exine protrudes over the endoapertures. In thin section the endexine is thicker and lamellate around the endoaperture area, and the foot layer is thicker in mesocolpial regions. Guilfoylia pollen is oblate and gemmate-verrucate, with a granular aperture surface membrane. Columellae are short. Recchia pollen is suboblate to oblate spheroidal, and microreticulate-perforate with a granular aperture surface membrane. Exine protrudes over the endoapertures. The foot layer is thin to discontinuous around aperture margins and thick in mesocolpial regions. Stylobasium pollen is suboblate, and finely rugulate-perforate with a granular aperture surface membrane. Columellae are short, the foot layer is thin or absent. Suriana pollen is suboblate, and finely rugulate-perforate with a granular aperture surface membrane. Pollen of Cadellia and Recchia, and Stylobasium and Suriana are morphologically similar. Verrucate surface

ornamentation is only present in Guilfoylia. Quillaja, Cadellia and Recchia share the character of protruding exine over the endoaperture area. Striate ornamentation occurs in Quillaja and Cadellia. The pollen morphology of Quillajaceae has more in common with that of Leguminosae and Surianaceae, and with Cadellia in particular, than with Polygalaceae. (copyright) 2004 Elsevier B.V. All rights reserved.
46 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Subfile: Plant Science

259. Cleveland, Don W., Hwo, Shu-Ying, and Kirschner, Marc W. (1977). Physical and chemical properties of purified tau factor and the role of tau in microtubule assembly. *Journal of Molecular Biology* 116: 227-247.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

This paper describes the physical and chemical properties of purified tau, a protein which is associated with brain microtubules and which induces assembly of microtubules from tubulin. Purified tau is composed of four polypeptides which migrate at positions equivalent to molecular weights between 55,000 and 62,000 during electrophoresis on sodium dodecyl sulfate/polyacrylamide gels. These polypeptides are shown to be closely related by peptide mapping and by amnio acid analysis. A comparison by various techniques of the high molecular weight microtubule-associated proteins with the tau polypeptides indicates no apparent relationship. Tau is found by analytical ultracentrifugation and by sedimentation equilibrium to have a sedimentation coefficient of 2.6 S and a native molecular weight of 57,000. Tau, therefore, must be highly asymmetric (an axial ratio of 20:1 using a prolate ellipsoid model), and yet possess little [alpha]-helical structure as indicated by circular dichroism. Isoelectric focusing shows tau to be a neutral or slightly basic protein. Tau is also seen to be phosphorylated by a protein kinase which copurifies with microtubules. In the assembly process, tau apparently regulates the formation of longitudinal oligomers from tubulin dimers, and hence promotes ring formation under depolymerizing conditions and microtubule formation under polymerizing conditions. The known asymmetry of the tau molecule suggests that tau induces assembly by binding to several tubulin molecules per tau molecule, thereby effectively increasing the local concentration of tubulin and inducing the formation of longitudinal filaments. The role of tau is discussed in light of reports of polymerization induced by particular non-physiological conditions and by various polycations. The formation of normal microtubules over a wide range of tubulin and tau concentrations under mild buffer conditions suggests that tau and tubulin define a complete in vitro assembly system under conditions which approach physiological.
http://www.sciencedirect.com/science/article/B6WK7-4DNGTMR-39/2/8258ffac10963cfc3c0ec4d9e6483a03

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<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Groundwater contamination by pesticides may be affected by the amounts of pesticide used, the mobility and degradation characteristics of the pesticides, and the vulnerability of an area to pollution. An index of potential pollution was developed based on these factors, with the groundwater vulnerability being measured using the DRASTIC ranking method. Seventeen regions were selected from throughout New Zealand where

significant pesticides have been applied and there is an underlying groundwater system. They were ranked according to this index of potential pollution. The sensitivity of the ranking to various formulation and weightings of the index was examined. Three regions (Poverty Bay, Te Puke, and Motueka) were generally highly ranked for a wide range of index formulations. Six of the higher-ranked regions were selected for sampling in the second phase of the study.
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

261. Coffin, D. E. and McKinley, W. P (1979). Chemical contaminants of foods. *Developments in Food Science* 2: 163-9.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1981:2974
Chemical Abstracts Number: CAN 94:2974
Section Code: 17-2
Section Title: Foods
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Food (contaminants of, of Canada); Pesticides (of food, of Canada); Trace elements Role: BIOL (Biological study) (toxic, of food, of Canada)
CAS Registry Numbers: 50-29-3; 56-38-2; 58-89-9; 60-57-1; 92-52-4D; 115-29-7; 115-32-2; 121-75-5; 333-41-5; 563-12-2; 732-11-6; 2310-17-0; 7439-92-1; 7439-97-6; 7440-43-9 Role: BIOL (Biological study) (of food, of Canada) Levels of Cd, Pb, Hg, and pesticides occurring in Canadian foods and diets are compared with comparable data from the US. Av. levels for Pb and Cd were ?0.20 and ?0.10 mg/kg, except for 0.26 mg Pb/kg beef kidney and 0.26 and 0.61 mg Cd/kg pork and beef kidney and 0.10-0.18 mg Cd/kg beef and pork liver. The Cd content of the Canadian diet was higher than that in the US (67 vs. 36 mg/person/day). Infants had much greater exposure to Cd and Pb than adults. Pesticide residues in foods of animal origin were primarily DDT [50-29-3], dieldrin [60-57-1], and HCH [58-89-9]. Endosulfan [115-29-7] was found only in fruits and vegetables, and dicofol [115-32-2] in oranges and apples. P-contg. pesticides (14) were detected only in plant commodities, being primarily malathion [121-75-5], diazinon [333-41-5], ethion [563-12-2], parathion [56-38-2], phosalone [2310-17-0], and imidan [732-11-6]. Infant exposure to chlorinated hydrocarbons was greater than that of adults, and nursing infants consumed more than those fed cow milk. [on SciFinder (R)] 0167-4501 pesticide/ food;/

contaminant/ food;/ trace/ element/ toxic/ food

262. Cofie, O. O., Agbottah, S., Strauss, M., Esseku, H., Montangero, A., Awuah, E., and Kone, D. (Solid-Liquid Separation of Faecal Sludge Using Drying Beds in Ghana: Implications for Nutrient Recycling in Urban Agriculture. *Water res. 2006, jan; 40(1):75-82. [Water research]: Water Res*. Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

ABSTRACT: This study investigated the possibility of recycling nutrients in human excreta and municipal solid waste for use in agriculture. It reports on the use of drying beds in separating solid and liquid fractions of faecal sludge (FS) so that the solids can be co-composted and the organic matter and part of the nutrients captured for urban agriculture. Sludge influent onto drying beds, percolate effluent, and dewatered sludge (biosolids) were monitored over eight loading cycles in 2002. The unplanted drying beds were made of 15 cm of sand (0.2-0.6mm diameter) and 25 cm gravel (10 and 19 mm diameter). The loading rate of sludge ranged from 196 to 321 kg total solids (TS) /m(2)y. Biosolids with TS 20% were obtained after an average drying time of 2 weeks. The drying beds retained 80% of solids and 100% of helminth eggs. The biosolids had average organic matter content of 61%; hence, allowing for co-composting with biodegradable organic solid waste for hygienisation. The process is being investigated further to attain higher efficiency and reliability.
MESH HEADINGS: *Agriculture
MESH HEADINGS: Biodegradation, Environmental
MESH HEADINGS: Cities
MESH HEADINGS: *Conservation of Natural Resources
MESH HEADINGS: Feces
MESH HEADINGS: Ghana
MESH HEADINGS: Micronutrients/*metabolism
MESH HEADINGS: Sewage/*chemistry
LANGUAGE: eng

263. Cohen, M. E. (1993). Bursts of Periodontal Destruction and Remission, Percolation Phase Shifts, and Chaos. *Journal of periodontal research* 28: 429-436.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Bursts of periodontal destruction are modelled as percolation-driven phase shift events. Percolation theory, though widely used to study the flow of liquids through porous nonliving materials (e.g., soils and rocks), can be applied to bacterial or toxicological penetration of living tissue in only an approximate sense. However, it seems necessary that some mechanism, fundamentally similar to the percolation phase shift, is required to adequately account for bursts. Percolation theory is therefore offered as a framework for considering such events. A principal finding of percolation theory is the existence of percolation thresholds, such that when P, the independent probability that a subregion is susceptible to an invading substance, is above the threshold, the region will percolate or allow flow through, and when P is below the threshold the region will not percolate. This instantaneous transition, from a structure that will permit percolation to one that will not, is
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: CYBERNETICS
MESH HEADINGS: DENTAL EQUIPMENT
MESH HEADINGS: DENTAL INSTRUMENTS
MESH HEADINGS: DENTISTRY/METHODS
MESH HEADINGS: MOUTH DISEASES/PATHOLOGY
MESH HEADINGS: TOOTH DISEASES/PATHOLOGY
MESH HEADINGS: POISONING

MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: BACTERIA
MESH HEADINGS: BACTERIA
MESH HEADINGS: VERTEBRATES
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-Biocybernetics (1972-)
KEYWORDS: Dental and Oral Biology-General
KEYWORDS: Dental and Oral Biology-Pathology
KEYWORDS: Toxicology-General
KEYWORDS: Medical and Clinical Microbiology-Bacteriology
KEYWORDS: Bacteria-General Unspecified (1992-)
KEYWORDS: Vertebrata-Unspecified
LANGUAGE: eng

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Three commercial chitosans with a degree of acetylation of 25-30% were studied by light scattering (static and dynamic), analytical ultracentrifugation (sedimentation velocity and sedimentation equilibrium), and capillary viscometry in 0.02 M acetate buffer/0.1 M NaCl, pH 4.5. The molecular masses obtained by sedimentation equilibrium measurements or sedimentation and diffusion coefficients according to the Svedberg equation agreed well or fairly well with those from static light scattering whereas the molecular masses calculated via the Scheraga-Mandelkern equation were found too low by almost 50%. The various Mark-Houwink type relationships suggested a nearly free-draining flexible worm-like chain. A prolate ellipsoid of revolution with an axial ratio a/b~25 was shown to be a hydrodynamically equivalent body of the flexible worm-like chain that had been derived from static light scattering. The findings illustrate the fact that a hydrodynamically strongly asymmetric shape need not mean a strongly elongated shape of the molecules in reality. Chitosans/ Molecular mass/ Conformation/ Light scattering/ Ultracentrifugation/ Viscosity/ Diffusion/ Sedimentation/ Worm-like chain
http://www.sciencedirect.com/science/article/B6TFD-42YFBVY-7/2/8366d19477d56a0fcf90a7803576307b

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Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ABSTRACT: TD3: Residues of phosmet were measured on samples of apples and leaves and in soil and water collected during the 1987 apple maggot fruit fly treatment program. The samples were analyzed to examine the dissipation of phosmet over time between successive sprays. The effect of climate on the environmental fate of phosmet was studied by monitoring and comparing results from one coastal and two inland sites. Residue levels in 1987 were lower for soil and higher for fruit than those levels found in 1986. Quality control samples indicated that these differences may have been attributed to a change in the laboratory that conducted the analyses. The 10 ppm tolerance level for apple fruit was exceeded in only one sample collected the day after phosmet was applied. At both inland sites, phosmet levels on fruit samples taken the day following applications were higher with successive applications. Possibly, shorter spray intervals accounted for the trend. No phosmet or phosmetoxon was detected (detection limit 1
KEYWORDS: California
KEYWORDS: Apple trees
KEYWORDS: Drosophilidae
KEYWORDS: Pest control
KEYWORDS: Environmental monitoring
KEYWORDS: Phosmet

KEYWORDS: Pesticide residues

266. Comm Residues Usa (1991). General Referee Reports Committee on Residues 104th Aoac Annual International Meeting New Orleans Louisiana Usa September 9-13 1990. *J assoc off anal chem* 74: 149-155.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING REPORT FOOD RESIDUE METALS ELEMENTS METHODS ORGANOHALOGEN PESTICIDE ORGANONITROGEN PESTICIDE ORGANOPHOSPHORUS PESTICIDE AGRICHEMICAL HAZARDOUS MATERIALS
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: MINERALS/ANALYSIS
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Methods-Minerals
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-Foods
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Agronomy-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: eng

267. Connors, Peter G. and Beeman, W. W. (1972). Size and shape of 5 s ribosomal RNA. *Journal of Molecular Biology* 71: 31-37.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA, YEAST.

The X-ray scattering at small angles from dilute solutions of yeast and Escherichia coli 5 s RNA has been measured. The molecule is prolate with an axial ratio of about 5 to 1. The radius of gyration is Rg=34.5 +/- 1.5 A. A comparison of the experimental and computed scattering curves suggests that one end of the molecule may be appreciably larger in cross-section than the other. There is indirect evidence for the existence of double helical segments parallel to the long axis of the molecule. The scattering curves from the 5 s RNA's of the two different organisms are the same within experimental error. http://www.sciencedirect.com/science/article/B6WK7-4DNGVF2-42/2/b1b90ef58260694774a36b5aa5263763

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:290278
Chemical Abstracts Number: CAN 133:29784
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Onion (green; multiresidue anal. of pesticides in fresh fruits and vegetables using procedures developed by Florida Department of Agriculture and Consumer Services); Kale (greens; multiresidue anal. of pesticides in fresh fruits and vegetables using procedures developed by Florida Department of Agriculture and Consumer Services); Cabbage; Food analysis; Food contamination; Fruit; Gas chromatography; Mass spectrometry; Orange; Pakchoi; Parsley; Peach; Pesticides; Quality control; Spinach; Tomato; Vegetable (multiresidue anal. of pesticides in fresh fruits and vegetables using procedures developed by Florida Department of Agriculture and Consumer Services); Turnip (roots; multiresidue anal. of pesticides in fresh fruits and vegetables using procedures developed by Florida Department of Agriculture and Consumer Services); Bean (snap; multiresidue anal. of pesticides in fresh fruits and vegetables using procedures developed by Florida Department of Agriculture and Consumer Services); Extraction (solid-phase; multiresidue anal. of pesticides in fresh fruits and vegetables using procedures developed by Florida Department of Agriculture and Consumer Services)
CAS Registry Numbers: 56-38-2 (Parathion-ethyl); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (DDD); 72-55-9 (DDE); 76-44-8 (Heptachlor); 82-68-8 (Pentachloronitrobenzene); 86-50-0 (Azinphos-methyl); 94-74-6 (MCPA); 99-30-9 (Dichloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 118-74-1 (HCB); 121-75-5 (Malathion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 330-55-2 (Linuron); 333-41-5 (Diazinon); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamide); 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 1497-41-2; 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1646-87-3 (Aldicarb sulfoxide); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2032-65-7 (Methiocarb); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2425-06-1 (Captafol); 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 5902-51-2 (Terbacil); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 16655-82-6 (3-HydroxyCarbofuran); 16752-77-5 (Methomyl); 17040-19-6 (Oxydemeton methyl sulfone); 22224-92-6 (Fenamiphos); 22248-79-9 (Gardona); 23135-22-0 (Oxamyl); 23576-24-1; 23950-58-5 (Pronamide); 27314-13-2 (Norflurazon); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 31972-44-8 (Fenamiphos sulfone); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan II); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 41198-08-7 (Profenofos); 43121-

43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 56070-16-7 (Terbufos sulfone); 82657-04-3 (Bifenthrin); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue anal. of pesticides in fresh fruits and vegetables using procedures developed by Florida Department of Agriculture and Consumer Services); 75-09-2 (Methylene chloride) Role: POL (Pollutant), OCCU (Occurrence) (multiresidue anal. of pesticides in fresh fruits and vegetables using procedures developed by Florida Department of Agriculture and Consumer Services)

Citations: 1) US Environment Protection Agency; Code of Federal Regulations, CFR 40 Part 180 1997
Citations: 2) Anon; Congressional Record, H8127
Citations: 3) Anon; Congressional Record, H6681
Citations: 4) Anon; National Organic Food Standards Act, 7CFR Part 205, Docket No TMD-94-00-2, RIN:0581-AA40
Citations: 5) Anon; Annual Summary Calendar Year 1997, http://www.ams.usda.gov/science/pdp/ 1997
Citations: 6) Luke, M; J Assoc Off Anal Chem 1975, 58, 1020
Citations: 7) Luke, M; J Assoc Off Anal Chem 1981, 64, 1187
Citations: 8) McMahon, B; Pesticide Analytical Manual, 3rd Ed 1994, 1, 1
Citations: 9) California Department of Food and Agriculture; Multiresidue Screen for Pesticides in Fruits and Vegetables 1995, 1
Citations: 10) Washington Department of Agriculture; Standard Operating Procedures 1993, Labop 4, 1
Citations: 11) Mills, P; J Assoc Off Anal Chem 1963, 46, 186
Citations: 12) Liao, W; J Assoc Off Anal Chem 1991, 74, 554
Citations: 13) Lee, S; Fresenius J Anal Chem 1991, 339, 376
Citations: 14) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 15) Lee, M; J Agric Food Chem 1991, 39, 2192
Citations: 16) Olson, N; LC-GC 1994, 12, 142
Citations: 17) Pesticide Data Program, USDA, Agricultural Marketing Service; Standard Operating Procedures for PDP Laboratories 1997
Citations: 18) US Environmental Protection Agency; Good Laboratory Practice Standards, 40CFR Part 160.8 1990
Citations: 19) US Food and Drug Administration; Good Laboratory Practices, 21CFR Part 58 1995
Citations: 20) Fong, W; Pesticide Residues in Foods 1999
Citations: 21) Wylie, P; Abstracts of the First European Pesticide Residue Workshop 1996, O-023
Citations: 22) Cook, J; J AOAC Int 1999, 82, 1
Citations: 23) US Environmental Protection Agency; Wastewater Method 625, 40CFR 136 Parts I, VI, and VIII 1994
Citations: 24) Pickering, M; Pickering Carbamate Analysis System 1996, 55
Citations: 25) Magness, J; Food and Feed Crops of the United States 1971
Citations: 26) Parker, G; J Assoc Off Anal Chem 1991, 74, 868
Citations: 27) Putnam, R; Abstracts of the Society of Environmental Toxicology and Chemistry PTA050 1998
Citations: 28) Anon; Florida Administrative Code 1995, Part 5 Improved quality and efficiency of pesticide residue anal. were achieved by examg. all aspects of the lab. process. In an effort to eliminate methylene chloride hazardous waste, an acetonitrile extn. method, originally developed by the California Department of Agriculture, was modified and adopted. Sample size and solvent consumption were reduced with the new method. Custom glassware racks and disposable supplies reduced overall anal. time. Gravity-fed, solid-phase extn. simplified sample prepn. and provided cleaner exts. for gas chromatog. analyses. Modifications to the method were made to achieve the ruggedness needed to maintain quality objectives during routine anal. Instrumental improvements, including new selective detectors, retention time locking, and mass spectrometry screening for all samples, provided the lab. with efficient, reliable, and confirmed anal. results. [on SciFinder (R)]
1060-3271 pesticide/ residue/ detection/ fruit/ vegetable

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Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1998:45753
Chemical Abstracts Number: CAN 128:137344
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Anas platyrhynchos; Bacillus thuringiensis; Bee; Bird; Colinus virginianus; Creosote; Ecotoxicity; Environmental pollution; Fish; Insecticides; Lepomis macrochirus; Metarhizium anisopliae; Oncorhynchus mykiss; Tar oils; Toxicity (impact of insecticides on wild fauna: a proposed toxicity index); Petroleum; Pyrethrins Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (impact of insecticides on wild fauna: a proposed toxicity index); Animal (wild; impact of insecticides on wild fauna: a proposed toxicity index)
CAS Registry Numbers: 50-29-3 (DDT); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 74-90-8 (Hydrogen cyanide); 76-06-2 (Chloropicrin); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 87-86-5 (Pentachlorophenol); 97-17-6 (Dichlofenthion); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 144-54-7 (Metam); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton methyl); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 533-74-4 (Dazomet); 534-52-1 (DNOC); 556-61-6 (MIT); 563-12-2 (Ethion); 584-79-2 (Allethrin); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-86-8 (Demeton S-methyl); 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1563-66-2 (Carbofuran); 1646-88-4 (Aldoxycarb); 2032-65-7 (Mercaptodimethur); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2425-10-7 (Xylylcarb); 2439-01-2 (Chinomethionat); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 3766-81-2 (Fenobucarb); 4824-78-6 (Bromophos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7696-12-0 (Tetramethrin); 7704-34-9 (Sulfur); 7786-34-7 (Mevinphos); 8003-19-8; 10112-91-1 (Mercurous chloride); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 12789-03-6 (Chlordane); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 15263-52-2 (Cartap hydrochloride); 16752-77-5 (Methomyl); 17040-19-6; 18854-01-8 (Isoxathion); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23422-53-9 (Formetanate hydrochloride); 23505-41-1 (Pirimiphos ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 28434-01-7 (Bioresmethrin); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31895-22-4; 33089-61-1 (Amitraz); 34681-23-7 (Butoxycarboxim); 35367-38-5 (Diflubenzuron); 35575-96-3 (Azamethiphos); 35597-43-4 (Bialaphos); 38260-54-7 (Etrimfos); 39196-18-4 (Thiofanox); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 42509-80-8 (Isazofos); 50512-35-1 (Isoprothiolane); 51487-69-5 (Cloethocarb); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55285-14-8 (Carbosulfan); 59669-26-0 (Thiodicarb); 63935-38-6 (Cycloprothrin); 64628-44-0 (Triflumuron); 65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 67375-30-8; 68085-85-8

(Cyhalothrin); 68359-37-5 (BetaCyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 79538-32-2 (Tefluthrin); 80844-07-1 (Etofenprox); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83733-82-8 (Fosmethilan); 86479-06-3 (Hexaflumuron); 89784-60-1 (Pyraclofos); 91465-08-6; 95465-99-9; 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 113036-88-7 (Flucycloxuron); 120068-37-3 (Fipronil); 138261-41-3 (Imidacloprid) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (impact of insecticides on wild fauna: a proposed toxicity index); 7439-97-6 (Mercury) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity; impact of insecticides on wild fauna: a proposed toxicity index)
Citations: Anon; Farm Chemicals Handbook 1994
Citations: Harden, J; Peskem Products The Australian directory of registered pesticides and their uses, 13 th Edition 1993
Citations: Anon; The Agrochemicals Handbook, Third Edition 1992
Citations: Anon; Shibuya Index (Index of Pesticides), Fifth Edition 1991
Citations: Anon; EPA Datasheets 1994
Citations: Anon; WHO/FAO Datasheets on Pesticides 1994
Citations: Anon; WHO Recommended Classification of Pesticides by Hazard and the Guidelines to Classification 1994-1995 The risk to fauna assocd. with the use of pesticides are generally known for individual pesticides. There exists, however, a lack of published material providing comparative coverage of all pesticides, although some partial complications have been published. In an attempt to redress this situation, the authors propose here index covering fish, birds, and bees for 169 currently available insecticides. [on SciFinder (R)] insecticide/ wild/ fauna/ toxicity/ index;/ Anas/ Colinus/ Apis/ insecticide/ toxicity;/ rainbow/ trout/ bluegill/ sunfish/ insecticide/ toxicity;/ bee/ insecticide/ toxicity/ index;/ Salmo/ insecticide/ toxicity/ index

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Chem Codes: EcoReference No.: 72145
Chemical of Concern: AZ,CPY,DZ,DMT,MLN,PRN,PSM,CBL,CBF Rejection Code: REFS CHECKED/REVIEW.

271. Cordoba, Julia, Reboiras, Miguel D., and Jones, Malcolm N. (1988). Interaction of n-octyl-[beta]--glucopyranoside with globular proteins in aqueous solution. *International Journal of Biological Macromolecules* 10: 270-276.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The binding of n-octyl glucoside to a range of ten globular proteins in aqueous solution (pH 6.4, ionic strength 0.132) at 25[degree sign]C has been measured by equilibrium dialysis. The binding isotherms which rise steeply at free n-octyl glucoside concentrations below the critical micelle concentration have been fitted to the Hill equation. For all the proteins the Hill coefficients are greater than unity indicating that binding is a positively cooperative process and the Gibbs energies of binding lie in a range from -9.7 kJ mol-1 for bovine serum albumin to -11.4 kJ mol-1 for fibrinogen and Aspergillus niger catalase. The enthalpies of interaction have been measured directly by microcalorimetry and are found to be very small relative to the Gibbs energies of binding consistent with a hydrophobic interaction. No evidence was found for the denaturation of the proteins by octyl glucoside. Binding has been analysed and discussed in terms of a model in which the proteins are incorporated into an octyl glucoside micelle. On this basis saturation binding to ribonuclease, lysozyme and [alpha]-chymotrypsin would be satisfactorily described in terms of a prolate ellipsoidal micelle whereas for bovine and Aspergillus niger catalase on oblate ellipsoid would describe the data more satisfactorily. Octyl glucoside/ binding energy/ globular proteins/ interaction enthalpy/ interaction entropy
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Agricultural task and exposure to organophosphate pesticides among farmworkers. *Environmental Health Perspectives* 112: 142-147.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 2004:185473
Chemical Abstracts Number: CAN 141:11263
Section Code: 59-5
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Orchards (fruit; harvesting, pruning, loading/packing, or thinning task effect on, vehicle and house dust contamination by, and occupational/environmental exposure to organophosphate pesticides among farm workers in Washington State); Human; Industrial hygiene; Occupational health hazard (harvesting, pruning, loading/packing, or thinning task effect on, vehicle and house dust contamination by, and occupational/environmental exposure to organophosphate pesticides among farm workers in Washington State); Dust (household and vehicular; harvesting, pruning, loading/packing, or thinning task effect on, vehicle and house dust contamination by, and occupational/environmental exposure to organophosphate pesticides among farm workers in Washington State); Pesticides (organophosphate; harvesting, pruning, loading/packing, or thinning task effect on, vehicle and house dust contamination by, and occupational/environmental exposure to organophosphate pesticides among farm workers in Washington State); Urine (pesticides in; harvesting, pruning, loading/packing, or thinning task effect on, vehicle and house dust contamination by, and occupational/environmental exposure to organophosphate pesticides among farm workers in Washington State)
CAS Registry Numbers: 56-38-2 (Parathion); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 298-00-0 (Methyl parathion); 732-11-6 (Phosmet) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), TEM (Technical or engineered material use), BIOL (Biological study), OCCU (Occurrence), USES (Uses) (harvesting, pruning, loading/packing, or thinning task effect on, vehicle and house dust contamination by, and occupational/environmental exposure to organophosphate pesticides among farm workers in Washington State); 598-02-7 (Diethylphosphate); 2465-65-8; 32534-66-0 (Dimethyldithiophosphate); 59401-04-6 (Dimethylthiophosphate) Role: BCP (Biochemical process), FMU (Formation, unclassified), OCU (Occurrence, unclassified), BIOL (Biological study), FORM (Formation, nonpreparative), OCCU (Occurrence), PROC (Process) (harvesting, pruning, loading/packing, or thinning task effect on, vehicle and house dust contamination by, and occupational/environmental exposure to organophosphate pesticides among farm workers in Washington State); 813-78-5 (Dimethylphosphate) Role: BCP (Biochemical process), FMU (Formation, unclassified), OCU (Occurrence, unclassified), BIOL (Biological study), FORM (Formation, nonpreparative), OCCU (Occurrence), PROC (Process) (urinary; harvesting, pruning, loading/packing, or thinning task effect on, vehicle and house dust contamination by, and occupational/environmental exposure to organophosphate pesticides among farm workers in Washington State)
Citations: Alavanja, M; Environ Res 1999, 80, 172
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Citations: Arbuckle, T; Int Arch Occup Environ Health 2002, 75, 406
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Citations: Jackson, K; Hidden Costs: Farm Workers Sacrifice Their Health to Put Food on Our Tables 2002
Citations: Kamel, F; Environ Health Perspect 2001, 109, 457
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Citations: Loewenherz, C; Environ Health Perspect 1997, 105, 1344
Citations: McCauley, L; Environ Health Perspect 2001, 109, 533
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Citations: Mills, P; Am J Ind Med 2001, 40, 571
Citations: O'Fallon, L; Environ Health Perspect 2001, 109, 469
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Citations: Wilson, B; Occup Med 1997, 12, 347
Citations: Zahm, S; Am J Ind Med 2001, 40, 487 Little is known about pesticide exposure among farm workers; even less is known about exposure assocd. with performing specific farm tasks. Using a random sample of 213 farmworkers in 24 communities and labor camps in eastern Washington State, the assocn. between occupational task and organophosphate (OP) pesticide residues in dust and OP metabolite concns. in urine samples of adult farm workers and their children was assessed. Data were from a larger study which sought to test a culturally appropriate intervention to break the take-home pathway of pesticide exposure. Commonly reported farm tasks were harvesting or picking (79.2%), thinning (64.2%), loading plants or produce (42.2%), planting or transplanting (37.6%), and pruning (37.2%). Mixing, loading, or applying pesticide formulations was reported by 20% of the sample. Workers who thinned were more likely than those who did not to have detectable concns. of azinphos-Me in house dust (92.1% vs. 72.7%; $p = 0.001$) and vehicle dust (92.6% vs. 76.5%; $p = 0.002$). Thinning was assocd. with higher urinary pesticide metabolite concns. in children (91.9% detectable vs. 81.3%; $p = 0.02$), but not in adults. Contrary to expectation, workers who reported mixing, loading, or applying pesticide formulations had lower detectable levels of pesticide residues in house or vehicle dust vs. those who did not perform these job tasks, though differences were not significant. Future research should evaluate workplace protective practices for field workers and the adequacy of re-entry intervals for pesticides used during thinning. [on SciFinder (R)] 0091-6765 occupational/ health/ hazard/ organophosphate/ pesticide/ exposure/ farm/ worker;/ agricultural/ task/ effect/ pesticide/ exposure/ farm/ worker/ Washington/ State;/ vehicle/ household/ dust/ organophosphate/ pesticide/ exposure/ farm/ worker;/ pesticide/ metabolite/ urine/ exposed/ farm/ worker

273. Costanza, John R. and Terwedow, Henry A (19861118). Controlled-release Imidan insecticide

composition. 6 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1987:115275
Chemical Abstracts Number: CAN 106:115275
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: USXXAM
Index Terms: Acrylic polymers Role: BIOL (Biological study) (controlled-release insecticide compn. contg. Imidan and); Surfactants (sustained-release Imidan formulation contg. polymer and); Vinyl compounds Role: BIOL (Biological study) (polymers, controlled-release insecticide compn. contg. Imidan and)
CAS Registry Numbers: 9003-53-6 (Polystyrene); 25067-02-1; 25153-46-2 Role: BIOL (Biological study) (controlled-release insecticide compn. contg. Imidan and); 9002-92-0 (Siponic L3); 9016-45-9 (Igepal CO 730) Role: BIOL (Biological study) (sustained-release Imidan formulation contg. polymer and); 732-11-6 (Imidan) Role: BIOL (Biological study) (sustained-release formulation of, acrylic and styrene polymers-contg.)
Patent Application Country: Application: US An emulsifiable conc. contg. Imidan, an acrylic or styrene resin, a surfactant and an aliph. org. solvent functions as a controlled-release insecticide when applied to plant foliage. The org. solvent is a solvent for the resin and the surfactant, but is a nonsolvent for the Imidan. A compn. contained poly(vinyl acetate-2-ethylhexyl acrylate) 8.9, Igepal CO 730 3.6, kerosene 59.0, and Imidan 50% WP (wettable powder) 28.5% by wt. The compn. provided higher housefly mortality than 50% Imidan WP, both before and after rainfall stress. [on SciFinder (R)] A01N057-00. Imidan/ insecticide/ controlled/ release;/ acrylic/ resin/ Imidan/ controlled/ release;/ polystyrene/ Imidan/ controlled/ release

274. Costanza, John R. and Terwedow, Henry A. Jr (19840911). Controlled release insecticide composition. 7 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1984:606111
Chemical Abstracts Number: CAN 101:206111
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: USXXAM
Index Terms: Acrylic polymers Role: BIOL (Biological study) (controlled-release Imidan formulation contg.)
CAS Registry Numbers: 25067-02-1; 25153-46-2 Role: BIOL (Biological study) (controlled-release Imidan formulation contg.); 732-11-6 Role: BIOL (Biological study) (controlled-release formulation of)
Patent Application Country: Application: US An emulsifiable conc. of Imidan [732-11-6], an acrylic resin, a surfactant, and an org. solvent, functions as a controlled-release insecticide when applied to plant foliage. Thus, a formulation contg. 16.5% by wt. Imidan, 82.5% poly(vinyl acetate-2-ethylhexyl acrylate) [25067-02-1] soln. in xylene, and 1% surfactant (1:1 Agrimul A 300-N-300) was dild. to 500 ppm Imidan and evaluated in the tobacco hornworm (Manduca sexta) bioassay. The formulation led to 100% mortality, whereas a com. Imidan wettable powder formulation, applied at the same active ingredient concn., caused only 67% mortality. [on SciFinder (R)] A01N025-10. Imidan/ formulation/ controlled/ release;/ insecticide/ formulation/ acrylic/ resin

275. Cox, E. R. (Preliminary Study of Wastewater Movement in Yellowstone National Park, Wyoming, October 1976 Through September 1977. *Govt reports announcements & index*

(gra&i), issue 06, 1984.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: This report describes hydrologic data collected and some preliminary interpretations for a study by the US Geological Survey in cooperation with the National Park Service to determine the effects on nearby lakes and streams of wastewater effluents that percolate from sewage lagoons at four sites in Yellowstone Natinal Park. A network of observation wells has been established near the sites, and water-level and water-quality data have been collected. Ground-water mounds have built up under the lagoons as percolation of effluents occurred. Percolating effluents mix with ground water and move down the hydraulic gradient in a direction generally perpendicular to the water-level contours. Chloride and sulfate concentrations and specific conductance of water in wells, and water-level contours indicate the most likely areas and directions of movement of percolating effluents. The most likely directions of movement are: Fishing Bridge, southwestward toward the Yellowstone River; Old Faithful, northward
KEYWORDS: Ground Water
KEYWORDS: Waste Water
KEYWORDS: Yellowstone National Park

276. Creech, David C. and Bach, Jon S (19961112). Method for suspending pesticide particulates in liquids. 8 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:701995
Chemical Abstracts Number: CAN 125:320592
Section Code: 5-6
Section Title: Agrochemical Bioregulators
Coden: USXXAM
Index Terms: Petrolatum; Waxes and Waxy substances Role: MOA (Modifier or additive use), USES (Uses) (matrix for suspending pesticide particulates in liqs.); Agrochemical formulations; Bacillus thuringiensis (suspending pesticide particulates in liqs.)
CAS Registry Numbers: 99-30-9 (Dichloran); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 1332-40-7 (Copper oxychloride); 7704-34-9 (Sulfur); 15096-52-3 (Cryolite) Role: AGR (Agricultural use), BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (suspending pesticide particulates in liqs.)
Patent Application Country: Application: US A method is given for coating finely-divided particles with one or more hydrophobic materials, such as waxes, in order to envelope each particle with a thin layer of material that entraps air adhering to the surface of the particle. Because of the entrapped air, the apparent d. of the particles is decreased and their stability in aq. suspensions is improved. When applied to pesticides, this process produces mixts. that remain in suspension for several hours after agitation, thus allowing more uniform and trouble-free application. [on SciFinder (R)] A01N025-04. A01N063-00; A01N059-06; B01J013-00. pesticide/ formulation/ suspension/ liq

277. Crepet, W. L. and Nixon, K. C. (1998). Fossil Clusiaceae From the Late Cretaceous (Turonian) of New Jersey and Implications Regarding the History of Bee Pollination. *American Journal of Botany, 85 (8) pp. 1122-1133, 1998.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOX DATA.

ISSN: 0002-9122
Descriptors: Bee pollination
Descriptors: Clusiaceae
Descriptors: Meliponine
Descriptors: Paleobotany
Descriptors: Paleoclusia

Descriptors: Resin
Descriptors: U pper Cretaceous
Abstract: The Turonian flora from Sayreville New Jersey includes one of the world's most diverse assemblages of Cretaceous angiosperm flowers. This flora is made even more interesting by its association with a large insect fauna that is preserved by charcoalification as well as in amber. Floral diversity includes numerous representatives of Magnoliidae, Hamamelididae, Rosidae, Dilleniidae, and Asteridae (Ericales sensu lato). Included are hypogynous, five-merous flowers with uniseriate hairs on the pedicels and stamens in bundles most frequently borne opposite the petals. There is considerable variation in filament length, and some filaments are branched. On some anthers, strands of residue, suggesting the former presence of a liquid of unknown nature, partially occlude the apparent zone of dehiscence. In other cases, open anthers are fully occluded by an amorphous substance. Pollen is rarely found associated with anthers, but is common on stigmatic surfaces. Pollen is prolate and tricolporate with reticulate micromorphology. The superior syncarpous ovary is five-carpellate with axile/intruded parietal placentation and numerous anatropous ovules/carpel. Ovary partitions have closely spaced, parallel ascending channels (secretory canals?), and there are apparent secretory canals/cavities in receptacles, sepals, and petals. Individual stigmas are cuneiform with a central groove and eccentrically peltate. Styles are short and fused. In aggregate, the stigmas form a secondarily peltate stigma. Seeds have a reticulate sculpture pattern, a pronounced raphe, and funicular arils with sculpture similar to the seeds. Phylogenetic analyses of several data matrices of extant taxa place this fossil in a monophyletic group with the modern genera Garcinia and Clusia within the Clusiaceae. As such, these fossils represent the earliest fossil evidence of the family Clusiaceae. Some modern Clusiaceae are notable, in particular, for their close relationship with meliponine and other highly derived bee pollinators; the fossil flowers share several characters that suggest a similar mode of pollination. This possibility is consistent with other floral and insect data from the same locality. 52 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.14.3 DIVERSITY: Palaeobotany
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Classification: 92.13.1.3 ENVIRONMENTAL BIOLOGY: Ecology: Community structure and processes
Classification: 92.13.1.7 ENVIRONMENTAL BIOLOGY: Ecology: Regeneration and reproduction
Classification: 92.13.1.5 ENVIRONMENTAL BIOLOGY: Ecology: Non-symbiotic interactions
Subfile: Plant Science

278. Cristina Forti, M. and Neal, Colin (1992). Hydrochemical cycles in tropical rainforests: an overview with emphasis on Central Amazonia. *Journal of Hydrology* 134: 103-115.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

The ionic content of the solutions found in the hydrological cycle component that cross the aerial phytomass (rainfall and throughfall), percolate through the root zone and drain to streams, for tropical rainforest, particularly in Central Amazonia, is examined. The rain waters in tropical rainforest are, in general, acidic and they provide the main chemical input to the rainforest ecosystem. The cycling of elements in the ecosystem, dominated by the transfer of compounds between throughfall and soil solution at shallow depth, contributes a much greater flux than that from rainfall input and stream output. http://www.sciencedirect.com/science/article/B6V6C-48C7D50-5G/2/43b1db7a13bddde3345b6b0a46578791

279. Crites, R. W. and Uiga, A. (An Approach for Comparing Health Risks of Wastewater Treatment Alternatives: a Limited Comparison of Health Risks Between Slow Rate Land Treatment and Activated Sludge Treatment and Discharge. *Govt reports announcements & index*

(gra&i), issue 21, 1979.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: The objective of this report is to develop an approach for comparing the health effects of land treatment and conventional treatment and discharge systems. An example assessment between activated sludge and slow rate land treatment of wastewater was presented based on the following assumptions: Flow of 3 Mgal/d of domestic wastewater. Activated sludge flowsheet with (1) disinfection and (2) surface water discharge. Slow rate land treatment flowsheet with (1) aerated lagoon preapplication treatment, (2) storage, (3) no disinfection, and, (4) percolate water recovery by underdrains and surface water discharge. The qualitative results indicate that both conventional and land treatment systems, which are well maintained and have good operating conditions, provide a large measure of safety for public health. Land treatment systems that involve slow infiltration offer greater protection against parasites and viruses, trace metals, nitrate, trace organics, and halogenated organics. Technical rept.
KEYWORDS: Sewage treatment
KEYWORDS: Water pollution control
KEYWORDS: Health risks

280. Crittenden, P. D. (1998). Nutrient Exchange in an Antarctic Macrolichen During Summer Snowfall-Snow Melt Events. *New Phytologist, 139 (4) pp. 697-707, 1998*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0028-646X
Abstract: Concentrations of NH inferior 4 superior +, NO inferior 3 superior -, PO inferior 4 superior 3 superior -, K superior +, Ca superior 2 superior + and Mg superior 2 superior + in snow meltwater resulting from summer snow showers were monitored before and after its passage through monospecific stands of the Antarctic macrolichen Usnea sphacelata R. Br. The sampling was conducted under field conditions near Casey Station in East Antarctica between January and March. Total snow deposition during the 61-d period was 44 plus-or-minus 1 mm (rainfall equivalent depth) delivering 362 plus-or-minus 10, 87 plus-or-minus 2 and 9 plus-or-minus 1 mu mol m superior - superior 2 of NH inferior 4 superior +, NO inferior 3 superior - and PO inferior 4 superior 3 superior -, respectively. Meltwater that had percolated through U. sphacelata was depleted in NH inferior 4 superior + and NO inferior 3 superior - equating with a retention by the lichen of 87 and 92%, respectively, of the total wet deposition of these ions. Lichen-modified meltwater was slightly enriched in PO inferior 4 superior 3 superior -, but because the volume of the lichen percolate was smaller than that of the original snow deposition, the lichen achieved a net gain of 9% of the total P deposited. Lichen percolate was also enriched in metal cations. Potassium loss associated with the melting of the heaviest snowfall (18 mm) was equivalent to only 0.05% of the total K in the lichen suggesting that ion loss did not signal significant cellular damage. There was also a progressive increase in NH inferior 4 superior + concentration in unmodified meltwater from 3 to 21 nmol ml superior - superior 1 over a 3-d period whereas levels in the lichen-modified meltwater remained unchanged at less than or equal 4 nmol ml superior - superior 1. This enrichment in NH inferior 4 superior + might have resulted from dry deposition onto the melting snow pack of NH inferior 3 emitted from nearby penguin rookeries. During the study, tagged thalli of U. sphacelata made a 2% loss in dry mass although they appeared healthy and, at the end of the study, showed an effective quantum yield (Delta F/Fm') comparable with field material. The results are discussed in relation to the time of year that is likely to be most suitable for lichen growth in this continental Antarctic environment and the potential growth-led demand for N in U. sphacelata.
74 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.11.2.2 PLANT PATHOLOGY AND SYMBIOSES: Symbioses: Lichens

Classification: 92.4.1 WATER AND NUTRIENTS: Nutrients
Subfile: Plant Science

281. Cronin, Mark T. D., Netzeva, Tatiana I., Dearden, John C., Edwards, Robert, and Worgan, Andrew D. P (2004). Assessment and Modeling of the Toxicity of Organic Chemicals to Chlorella vulgaris: Development of a Novel Database. *Chemical Research in Toxicology* 17: 545-554.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Database: CAPLUS
Accession Number: AN 2004:231684
Chemical Abstracts Number: CAN 140:370087
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Chlorella vulgaris; Electrophilicity; Hydrophobicity; Information systems; LUMO; Pesticides; Pimephales promelas; QSAR; Risk assessment; Simulation and Modeling; Tetrahymena pyriformis; Toxicity; Vibrio fischeri (assessment and modeling of toxicity of org. chems. to Chlorella vulgaris and development of novel database); Partition (octanol-water; assessment and modeling of toxicity of org. chems. to Chlorella vulgaris and development of novel database)
CAS Registry Numbers: 51-28-5 (2,4-Dinitrophenol); 55-38-9 (Fenthion); 58-27-5 (2-Methyl-1,4-naphthoquinone); 62-53-3 (Aniline); 64-17-5 (Ethanol); 67-56-1 (Methanol); 71-36-3 (Butan-1-ol); 75-65-0 (2-Methylpropan-2-ol); 78-92-2 (Butan-2-ol); 78-93-3 (Butanone); 80-62-6 (Methyl methacrylate); 83-38-5 (2,6-Dichlorobenzaldehyde); 83-42-1 (2-Chloro-6-nitrotoluene); 86-50-0 (Methyl azinphos); 87-62-7 (2,6-Dimethylaniline); 87-86-5 (Pentachlorophenol); 88-18-6 (2-tert-Butyl phenol); 88-69-7 (2-Isopropylphenol); 89-61-2 (2,5-Dichloronitrobenzene); 89-69-0 (1,2,4-Trichloro-5-nitrobenzene); 89-98-5 (2-Chlorobenzaldehyde); 90-02-8 (2-Hydroxybenzaldehyde); 90-05-1 (2-Methoxyphenol); 94-62-2 (Piperine); 94-71-3 (2-Ethoxyphenol); 95-48-7 (2-Cresol); 95-50-1 (1,2-Dichlorobenzene); 95-55-6 (2-Hydroxyaniline); 95-65-8 (3,4-Dimethylphenol); 96-05-9 (Allyl methacrylate); 96-22-0 (Pentan-3-one); 96-33-3 (Methyl acrylate); 96-76-4 (2,4-Di-tert-butylphenol); 97-02-9 (2,4-Dinitroaniline); 98-95-3 (Nitrobenzene); 99-08-1 (3-Nitrotoluene); 99-28-5 (2,6-Dibromo-4-nitrophenol); 99-30-9 (2,6-Dichloro-4-nitroaniline); 99-61-6 (3-Nitrobenzaldehyde); 99-65-0 (1,3-Dinitrobenzene); 100-00-5 (1-Chloro-4-nitrobenzene); 100-25-4 (1,4-Dinitrobenzene); 100-52-7 (Benzaldehyde); 100-66-3 (Anisole); 104-87-0 (4-Tolualdehyde); 106-40-1 (4-Bromoaniline); 106-41-2 (4-Bromophenol); 106-44-5 (4-Cresol); 106-48-9 (4-Chlorophenol); 108-39-4; 108-42-9 (3-Chloroaniline); 108-95-2 (Phenol); 110-43-0 (2-Heptanone); 117-18-0; 121-14-2 (2,4-Dinitrotoluene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 128-37-0 (2,6-Di-tert-butyl-4-methyl phenol); 150-76-5 (4-Methoxyphenol); 298-00-0; 348-54-9 (2-Fluoroaniline); 367-12-4 (2-Fluorophenol); 528-29-0 (1,2-Dinitrobenzene); 540-38-5 (4-Iodophenol); 603-71-4 (1,3,5-Trimethyl-2-nitrobenzene); 608-31-1 (2,6-Dichloroaniline); 608-71-9 (Pentabromophenol); 609-89-2 (2,4-Dichloro-6-nitrophenol); 618-87-1 (3,5-Dinitroaniline); 626-43-7 (3,5-Dichloroaniline); 634-93-5 (2,4,6-Trichloroaniline); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 818-61-1 (2-Hydroxyethyl acrylate); 868-77-9 (2-Hydroxyethyl methacrylate); 939-97-9 (4-tert-Butylbenzaldehyde); 950-37-8 (Methidathion); 1576-87-0 (trans-2-Pentenal); 1689-82-3; 2463-84-5 (Dicapthon); 2495-37-6 (Benzyl methacrylate); 2636-26-2 (Cyanophos); 3481-20-7 (2,3,5,6-Tetrachloroaniline); 3531-19-9 (6-Chloro-2,4-dinitroaniline); 4170-30-3 (Crotonaldehyde); 4748-78-1 (4-Ethylbenzaldehyde); 5388-62-5 (4-Chloro-2,6-dinitroaniline); 6284-83-9 (1,3,5-Trichloro-2,4-dinitrobenzene); 6728-26-3 (trans-2-Hexenal); 24964-64-5 (3-Cyanobenzaldehyde); 29355-26-8 (Phenylazophenol); 90134-10-4 (4-(Dibutylamino)benzaldehyde) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (assessment and modeling of toxicity of org. chems. to Chlorella vulgaris and development of novel database)
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Citations: 34) Basak, S; J Mol Struct (THEOCHEM) 2003, 622, 127
Citations: 35) Shen, M; J Med Chem 2002, 45, 2811
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Citations: 37) Netzeva, T; Predicting Chemical Fate and Toxicity 2004, 61
Citations: 38) Dearden, J; QSAR 88-Proceedings of the Third International Workshop on Quantitative Structure-Activity Relationships in Environmental Toxicology 1988, 43
Citations: 39) Hall, L; J Mol Graphics Modell 2001, 20, 4 This study reports a database of toxicity values for 91 compds. assessed in a novel, rapid, and economical 15 min algal toxicity test. The toxicity data were measured using the unicellular green alga Chlorella vulgaris in an assay that detd. the disappearance of fluorescein diacetate. The chems. tested covered a wide range of physicochem. properties and mechanisms of action. Quant. activity-activity relationships with the toxicity of the chems. to other species (Tetrahymena pyriformis, Vibrio fischeri, and Pimephales promelas) showed strong relationships, although some differences resulting from different protocols were established. Quant. structure-activity relationships (QSARs) were detd. using linear [multiple linear regression (MLR)] and nonlinear [k-nearest neighbors (KNN)] methods. Three descriptors, accounting for hydrophobicity, electrophilicity, and a function of mol. size cor. for the presence of heteroatoms, were found to be important to model toxicity. The predictivity of MLR was compared to KNN using leave-one-out cross-validation and the simulation of an external test set. MLR demonstrated greater stability in validation. The results of this study showed that method selection in QSAR is task-dependent and it is inappropriate to resort to more complicated but less transparent methods, unless there are clear indications (e.g., inability of MLR to deal with the data set) for the need of such methods. [on SciFinder (R)] 0893-228X modeling/ org/ chem/ toxicity/ Chlorella/ database

282. Crowe, Kristi M., Bushway, Alfred A., Bushway, Rodney J., and Hazen, Russell A (2006). Evaluation of

Chemical and Photochemical Oxidation Processes for Degradation of Phosmet on Lowbush Blueberries (Vaccinium angustifolium). *Journal of Agricultural and Food Chemistry* 54: 9608-9613.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Database: CAPLUS
Accession Number: AN 2006:1191595
Chemical Abstracts Number: CAN 146:26640
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Decomposition (biodegrdn.; phosmet degrdn. by chem. and photochem. oxidn. on lowbush blueberries); Detoxification; Food contamination; Insecticides; Oxidation; Oxidation; UV radiation; Vaccinium angustifolium (phosmet degrdn. by chem. and photochem. oxidn. on lowbush blueberries)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: ADV (Adverse effect, including toxicity), BSU (Biological study, unclassified), POL (Pollutant), RCT (Reactant), BIOL (Biological study), OCCU (Occurrence), RACT (Reactant or reagent) (phosmet degrdn. by chem. and photochem. oxidn. on lowbush blueberries); 7722-84-1 (Hydrogen peroxide); 7782-50-5 (Chlorine); 10028-15-6 (Ozone) Role: RCT (Reactant), RACT (Reactant or reagent) (phosmet degrdn. by chem. and photochem. oxidn. on lowbush blueberries); 3735-33-9P (Phosmet oxon) Role: SPN (Synthetic preparation), PREP (Preparation) (phosmet degrdn. by chem. and photochem. oxidn. on lowbush blueberries)
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Citations: 15) Laplanche, A; Ozone Sci Eng 1984, 6, 207
Citations: 16) Bank, H; Appl Environ Microbiol 1990, 56, 3888
Citations: 17) Hochberg, E; Pesticide Formulation and Adjuvant Technology 1996, 203
Citations: 18) Cabras, P; J Agric Food Chem 1997, 45, 2244
Citations: 19) Krol, W; J Agric Food Chem 2000, 48, 4666 Chem. and photochem. oxidn. processes were evaluated for their ability to degrade residual phosmet on lowbush blueberries and for their role in the conversion of phosmet to phosmet oxon-a toxic metabolite of phosmet. Chem. processes included 1 ppm of aq. O_3, 1% H_2O_2, 100 ppm of Cl, and UV, whereas photochem. processes included H_2O_2/UV, Cl/UV, and O_3/H_2O_2/UV. Phosmet applied as Imidan 2.5EC under lab. conditions resulted in a mean residual concn. of 44.4 ppm, which was significantly degraded ($p < 0.05$) by O_3 and Cl, yielding redns. of 57.7 and 46%, resp. Interaction between phosmet (Imidan 2.5EC) and any chem. or photochem. treatment did not result in conversion to phosmet oxon. Residual anal. of com. grown blueberries revealed mean phosmet (Imidan 70W) levels of 10.65 ppm and phosmet oxon levels of 12.49 ppm. Treatment of com. blueberries resulted in significant redns. in phosmet regardless of treatment type; however, only UV, H_2O_2/UV, and O_3 treatments degraded phosmet (Imidan 70W) to less toxic metabolites and reduced phosmet oxon levels. Treatment-induced conversion of phosmet to phosmet oxon was

noticeably influenced by variations between phosmet formulations. Acceleration of photochem. degrdn. by UV was not obsd. Selective oxidn. by O3 represents a significant postharvest process for degrading residual phosmet on lowbush blueberries. [on SciFinder (R)] 0021-8561 phosmet/ degrdn/ photodegrdn/ oxidn/ blueberry/ ozone/ hydrogen/ peroxide/ UV;/ Vaccinium/ phosmet/ oxon/ degrdn/ photodegrdn/ oxidn/ contamination/ detoxification

283. Csernatoni, M., Gyorfi, L., and Hargitai, E (1988). Results of pesticide analyses monitoring program in surface waters in Hungary between 1977 and 1986. Pt. A: 861-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1988:636501
Chemical Abstracts Number: CAN 109:236501
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Conference
Coden: 56JGAY
Language: written in English.
Index Terms: Water pollution (by pesticides, control of, program for, in Hungary); Fish (water pollution by pesticides effect on, of Hungary); Herbicides; Pesticides (water pollution by, control of, program for, in Hungary)
CAS Registry Numbers: 50-29-3; 58-89-9 (Lindane); 93-76-5 (2,4,5-T); 94-74-6 (MCPA); 94-75-7 (2,4-D); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 330-54-1 (Diuron); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 759-94-4 (EPTAM); 1563-66-2 (Carbofuran); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2008-41-5 (Butilate); 5131-24-8; 7287-19-6 (Prometryn); 34256-82-1 (Acetochlor); 51218-45-2 (Metolachlor) Role: POL (Pollutant), OCCU (Occurrence) (water pollution by, control of, program for, in Hungary)
In 1976 a monitoring program started for the control of pesticide contamination of surface waters in Hungary. The monitoring program regularly gives information on the pesticide distribution in surface waters and the effect of the Hungarian pest management practice on the environment, in order to develop a sustainable pest management system. The data show that pest management in cooperative farms do not cause any real damage to the aquatic ecosystem. [on SciFinder (R)] pesticide/ water/ pollution/ Hungary

284. Culliney, T. W., Pimentel, D., and Pimentel, M. H. (1992). Pesticides and Natural Toxicants in Foods. *Agric ecosyst environ* 41: 297-320.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Foods, in addition to supplying the nutrients, vitamins, and minerals necessary to sustain life, may also contain a variety of naturally-occurring toxins in varying quantities. While some of these can present a health risk to the consuming public, usually when certain food items are not prepared properly, research has identified a beneficial role for some in helping to prevent illness. A more important risk derives from the synthetic compounds, such as pesticides, that may contaminate foods. Recent debate among scientists and government policy makers, reported widely in both the scholarly and popular press, has sought to clarify the relative public health risks presented by natural toxins versus pesticidal residues present in foods. An attempt is made here to put this debate in proper perspective. Information is given on the role played by naturally-occurring food components in promoting human health, followed by a survey of the diversity of natural toxins present in ma
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD TECHNOLOGY

MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: NERVOUS SYSTEM DISEASES/PATHOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: IMMUNITY, CELLULAR
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: General Biology-Institutions
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-General
KEYWORDS: Food Technology-Preparation
KEYWORDS: Nervous System-Pathology
KEYWORDS: Toxicology-Foods
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: Immunology and Immunochemistry-Immunopathology
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

285. Cunha, Sara C., Lehotay, Steven J., Mastovska, Katerina, Fernandes, Jose O., Beatriz, Maria, and Oliveira, P. P (2007). Evaluation of the QuEChERS sample preparation approach for the analysis of pesticide residues in olives. *Journal of Separation Science* 30: 620-632.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:371964
Chemical Abstracts Number: CAN 147:71290
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Olea europaea; Olive; Pesticides (evaluation of QuEChERS sample prepn. approach for anal. of pesticide residues in olives); Olive oil Role: AMX (Analytical matrix), ANST (Analytical study) (evaluation of QuEChERS sample prepn. approach for anal. of pesticide residues in olives); Food contamination (evaluation of QuEChERS sample prepn. approach for anal. of pesticide residues in olives in relation to); Mass spectrometry (gas chromatog. combined with; evaluation of QuEChERS sample prepn. approach for anal. of pesticide residues in olives with); Mass spectrometry (liq. chromatog. combined with, tandem; evaluation of QuEChERS sample prepn. approach for anal. of pesticide residues in olives with); Liquid chromatography (mass spectrometry combined with, tandem; evaluation of QuEChERS sample prepn. approach for anal. of pesticide residues in olives with); Gas chromatography (mass spectrometry combined with; evaluation of QuEChERS sample prepn. approach for anal. of pesticide residues in olives with); Food analysis (of QuEChERS sample prepn. approach for anal. of pesticide residues in olives)
CAS Registry Numbers: 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-55-9; 121-75-5 (Malathion); 122-34-9 (Simazine); 330-54-1 (Diuron); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 15299-99-7 (Napropamide); 42874-

03-3 (Oxyfluorfen); 52918-63-5 (Deltamethrin); 95737-68-1 (Pyriproxyfen); 128639-02-1 (Carfentrazone-ethyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (evaluation of QuEChERS sample prepn. approach for anal. of pesticide residues in olives)
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Citations: 37) Hajslova, J; J Chromatogr A 2003, 1000, 181 This paper describes the use of a quick, easy, cheap, effective, rugged, and safe (QuEChERS) method for extn. and cleanup of 16 pesticide residues of interest in olives and olive oil. These products contain a high lipid content, which can adversely affect pesticide recoveries and harm traditional chromatog. systems. For extn., the main factors (oil and water content) were studied and optimized in expts. to maximize pesticide recoveries. Dispersive SPE with different sorbents was also investigated to minimize matrix coextractives and interferences. For anal., a new automated DSI device was tested in GC-MS to avoid nonvolatile coextractives from contaminating the instrument. LC-MS/MS with pos. ESI was used for those pesticides that were difficult to detect by GC-MS. The final method was validated for olives in terms of recoveries, repeatabilities, and reproducibilities using both detection techniques. The results demonstrated that the method achieved acceptable quant. recoveries of 70-109% with RSDs <20% for DSI-GC-MS and 88-130% with RSDs <10% for LC-MS/MS, and LOQ at or below the regulatory max. residue limits for the pesticides were achieved. [on SciFinder (R)] 1615-9306 pesticide/ detection/ olive/ QuEChERS/ approach

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William, Coronado, Gloria, and Thompson, Beti (2002). Evaluation of take-home organophosphorus pesticide exposure among agricultural workers and their children. *Environmental Health Perspectives* 110: A787-A792.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 2003:13960
Chemical Abstracts Number: CAN 138:242157
Section Code: 59-5
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5, 13
Document Type: Journal
Language: written in English.
Index Terms: Dust (airborne; take-home organophosphorus pesticide exposure among agricultural workers and their children); Airborne particles (dust; take-home organophosphorus pesticide exposure among agricultural workers and their children); Dust (house; take-home organophosphorus pesticide exposure among agricultural workers and their children); Pesticides (organophosphorus; take-home organophosphorus pesticide exposure among agricultural workers and their children); Air pollution (particulate; take-home organophosphorus pesticide exposure among agricultural workers and their children); Human; Public health; Urine analysis (take-home organophosphorus pesticide exposure among agricultural workers and their children)
CAS Registry Numbers: 56-38-2 (Parathion); 86-50-0 (Azinphosmethyl); 121-75-5 (Malathion); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 2921-88-2 (Chlorpyrifos) Role: ADV (Adverse effect, including toxicity), AGR (Agricultural use), BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence), USES (Uses) (take-home organophosphorus pesticide exposure among agricultural workers and their children); 598-02-7 (Diethylphosphate); 813-78-5 (Dimethylphosphate); 2465-65-8; 32534-66-0 (Dimethyldithiophosphate); 59401-04-6 (Dimethylthiophosphate) Role: BSU (Biological study, unclassified), BIOL (Biological study) (take-home organophosphorus pesticide exposure among agricultural workers and their children)
Citations: Aprea, C; Environ Health Perspect 2000, 108, 521
Citations: Boeinger, M; Am Ind Hyg Assoc J 1993, 54, 615
Citations: Buckley, J; Cancer Res 1989, 49, 4030
Citations: Bunin, G; Am J Epidemiol 1990, 131(5), 776
Citations: Cohen, A; Truncated and Censored Samples 1991
Citations: Daniels, J; Environ Health Perspect 1997, 105, 1068
Citations: Gordon, S; J Expo Anal Environ Epidemiol 1999, 9(5), 456
Citations: Knichkowy, B; Am J Ind Med 1986, 9, 543
Citations: Koch, D; Environ Health Perspect 2002, 110, 829
Citations: Kristensen, P; Int J Cancer 1996, 65, 39
Citations: Loewenherz, C; Environ Health Perspect 1997, 105, 1344
Citations: Lowengart, R; J Natl Cancer Inst 1987, 79(1), 39
Citations: Lu, C; Environ Res 2000, 84, 290
Citations: Lu, C; Environ Health Perspect 2001, 109, 299
Citations: Lyles, R; Stat Med 2001, 20(19), 2921
Citations: Lynn, H; Stat Med 2001, 20(1), 33
Citations: McDiarmid, M; Am J Ind Med 1993, 24, 1
Citations: Moate, T; J AOAC Int 2002, 85(1), 36
Citations: Moate, T; J Anal Toxicol 1999, 23, 230
Citations: NIOSH National Institute for Occupational Safety and Health; Report to Congress on Workers' Home Contamination Study Conducted Under the Workers' Family Protection Act (29 U.S.C. 671 A) 1995
Citations: National Research Council; Pesticides in the Diets of Infants and Children 1993
Citations: Simcox, N; Environ Health Perspect 1995, 103, 1126
Citations: Sterling, D; Environ Res 1999, 81, 130

Citations: Thompson, B; J Occup Environ Med
Citations: US Department of Agriculture; Agricultural Chemical Usage, 1999 Fruit and Nut Summary, http://usda.mannlib.cornell.edu/reports/nassr/other/pcu-bb/agch0700.txt 2000
Citations: US EPA; Assigning Values to Nondetected / Nonquantified Pesticide Residues Je Human Health Dietary Exposure Assessments, www.epa.gov/EPA-PEST/1998/December/Day-04/6025.htm 1998
Citations: WHO World Health Organization; Organophosphorous Insecticides: A General Introduction 1986, 63
Citations: Wilder, L; Presented at ISEA Annual Meeting 2001
Citations: Wilkins, J; Am J Ind Med 1988, 14, 229 The authors analyzed organophosphorus pesticide exposure in 218 farm worker households in agricultural communities in Washington State to study the take-home pathway of pesticide exposure and to establish baseline exposure levels for a community intervention project. House dust samples (n = 156) were collected from within the homes, and vehicle dust samples (n = 190) were collected from the vehicles used by the farm workers to commute to and from work. Urine samples were obtained from a farm worker (n = 213) and a young child (n = 211) in each household. Dust samples were analyzed for six pesticides, and urine samples were analyzed for five dialkyl phosphate (DAP) metabolites. Azinphosmethyl was detected in higher concns. (p < 0.0001) than the other pesticides: geometric mean concns. of azinphosmethyl were 0.53 mg/g in house dust and 0.75 mg/g in vehicle dust. Di-Me DAP metabolite concns. were higher than di-Et DAP metabolite concns. in both child and adult urine (p < 0.0001). Geometric mean di-Me DAP concns. were 0.13 mmol/L in adult urine and 0.09 mmol/L in child urine. Creatinine-adjusted geometric mean di-Me DAP concns. were 0.09 mmol/g in adult urine and 0.14 mmol/g in child urine. Azinphosmethyl concns. in house dust and vehicle dust from the same household were significantly assocd. (r2 = 0.41, p < 0.0001). Di-Me DAP levels in child and adult urine from the same household were also significantly assocd. (r2 = 0.18, p < 0.0001), and this assocn. remained when the values were creatinine adjusted. The results of this work support the hypothesis that the take-home exposure pathway contributes to residential pesticide contamination in agricultural homes where young children are present. [on SciFinder (R)] 0091-6765 organophosphorus/ pesticide/ exposure/ child/ urine/ house/ dust

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Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

Neutron-scattering in combination with quasi-elastic light-scattering and electron microscopy was used to derive a model for the capsid structure of the Top a-t component of alfalfa mosaic virus (AMV-Ta-t). In the electron microscope, AMV-Ta-t appears as an irregular ellipsoidal particle with apparent dimensions 275(+/-31) x225(+/-22) . Assuming that the particles are monodisperse, model calculations show that the neutron-scattering data are best explained by an oblate ellipsoidal shape for the virion with external dimensions 284 x284 x216 . Based on this result, and in combination with the known composition of the virion, it is suggested that the capsid structure could be based on a deltahedron with 52 pointgroup symmetry and comprising 120 subunits. Such a model would imply a greater deviation from equivalent subunit interactions than normally necessary in icosahedral capsids. The neutron and photon correlation data, however, do not allow us to rule out the possibility that Top a-t is a slightly polydisperse preparation of irregular prolate shapes with mean dimensions 312 x232 x232 . Both possibilities support the concept of alfalfa mosaic virus coat protein being capable of a wide range of intersubunit interactions, this flexibility resulting in considerable polymorphism in capsid structures.
http://www.sciencedirect.com/science/article/B6WK7-4M3B2MM-3/2/38b5e5c62c63a67c50b03025d77864bf

288. Czech, Fred P., Mack, Marvin D., and Evans, George (1969). Infrared, ultraviolet, and visible spectrophotometric determination of Imidan in animal dips and sprays. *Journal - Association of Official Analytical Chemists* 52: 1017-26.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1969:500747
Chemical Abstracts Number: CAN 71:100747
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Dipping fluids (imidan detn. in); Insecticides (imidan, detn. in dipping fluids)
CAS Registry Numbers: 732-11-6 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in dipping fluids) Procedures utilizing certain regions of spectral energy for the detn. of Imidan in emulsifiable and wettable powder concns., aq. livestock dips, spray dips, and sprays are presented and compared. The uv method is recommended for rapid anal. of proprietary concns. Ir and colorimetric methods are advised for filth-laden animal dips and sprays. The ir method can be generally applied, is entirely specific for Imidan, and is quite precise. The other procedures are particularly useful for detn. of low levels of Imidan. [on SciFinder (R)] 0004-5756 I/ midan/ detn/ pesticides;/ cattle/ dips/ midan/ detn;/ spectrometry/ midan;/ IR/ spectrometry/ midan;/ UV/ spectrometry/ midan

289. Dall'Aglio, Mario, Duchi, Vittorio, Minissale, Angelo, Guerrini, Adolfo, and Tremori, Marco (1994). Hydrogeochemistry of the volcanic district in the Tolfa and Sabatini Mountains in central Italy. *Journal of Hydrology* 154: 195-217.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

A geochemical study on 26 thermal springs and 5 samples from thermal wells (t > 20[degree sign]C), 19 cold springs, 11 cold gas pools, and 14 stream samples from the Tolfa and Sabatini Mountains volcanic district (about 1300 km2) has clarified their genesis and evolution. Meteoric waters infiltrate the more permeable exposed rocks (carbonates and/or volcanites) and percolate down into two main aquifers. One is deep and located in Mesozoic anhydritic-carbonate formations, and is the regional geothermal reservoir that feeds springs that emerge at the margins of the carbonate series (either exposed or barely covered); its waters display typical bicarbonate-sulfate alkaline earth composition. The other aquifer(s) is shallower, consisting of waters that circulate primarily in volcanic deposits. The chemical characteristics of these shallow waters are heavily influenced by lithology and by a gas phase, mainly CO2, originating at depth. Temperature estimates obtained with SiO2 and gas geothermometers, which seem to be the most reliable under these conditions, indicate the widespread occurrence of deep fluids at temperatures higher than 110[degree sign]C under the area covered by the Sabatini volcanites. In some areas (Manziana, Trevignano, Nepi, and Cesano) the subsurface waters reach temperatures within the range characteristic of medium to high enthalpy systems (120-160[degree sign]C).
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290. Dalluge, Jens, van Rijn, Martijn, Beens, Jan, Vreuls, Rene J. J., and Brinkman, Udo A. Th (2002). Comprehensive two-dimensional gas chromatography with time-of-flight mass spectrometric detection applied to the determination of pesticides in food extracts. *Journal of Chromatography, A* 965: 207-217.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:583725
Chemical Abstracts Number: CAN 137:351672
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal

Language: written in English.
Index Terms: Apium graveolens; Daucus carota; Vegetable (comprehensive two-dimensional gas chromatog. with time-of-flight mass spectrometric detection applied to the detn. of pesticides in); Food contamination; Pesticides (comprehensive two-dimensional gas chromatog. with time-of-flight mass spectrometric detection applied to the detn. of pesticides in food exts.); Gas chromatography (two-dimensional; with time-of-flight mass spectrometric detection applied to the detn. of pesticides in food exts.); Time-of-flight mass spectrometry (with comprehensive two-dimensional gas chromatog. detection applied to the detn. of pesticides in food exts.)
CAS Registry Numbers: 60-51-5 (Dimethoate); 92-52-4 (Biphenyl); 101-21-3 (Chlorpropham); 118-74-1 (Hexachlorobenzene); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 1322-20-9 (Phenylphenol); 7786-34-7 (Mevinphos); 13194-48-4 (Ethoprophos); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 53112-28-0 (Pyrimethanil) Role: ANT (Analyte), ANST (Analytical study) (comprehensive two-dimensional gas chromatog. with time-of-flight mass spectrometric detection applied to the detn. of pesticides in food exts.); 55-38-9 (Fenthion); 56-38-2 (Parathion-ethyl); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2104-96-3 (Bromophos-methyl); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyriphos); 5598-13-0; 7287-19-6 (Prometryn); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 32809-16-8 (Procymidone); 34643-46-4 (Prothiophos); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 41483-43-6 (Bupirimate); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 55219-65-3 (Triadimenol); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 61949-76-6; 61949-77-7; 68085-85-8 (Cyhalothrin); 77732-09-3 (Oxadixyl); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 96489-71-3 (Pyridaben) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (comprehensive two-dimensional gas chromatog. with time-of-flight mass spectrometric detection applied to the detn. of pesticides in food exts.)
Citations: 1) Munari, F; J Chromatogr Sci 1990, 28, 61
Citations: 2) Schoenmakers, P; LC-GC International 1996
Citations: 3) van Arkel, P; J Chromatogr Sci 1988, 26, 267
Citations: 4) Phillips, J; J Chromatogr A 1999, 856, 331
Citations: 5) Frysinger, G; J High Resolut Chromatogr 1999, 22, 195
Citations: 6) Murphy, R; Anal Chem 1998, 70, 1585
Citations: 7) Blomberg, J; J High Resolut Chromatogr 1997, 20, 539
Citations: 8) de Geus, H; J High Resolut Chromatogr 2000, 23, 189
Citations: 9) Vreuls, R; J Microcol Sep 1999, 9, 663
Citations: 10) van Deursen, M; J High Resolut Chromatogr 2000, 23, 507
Citations: 11) Shellie, R; Anal Chem 2001, 73, 1336
Citations: 12) Kinghorn, R; J High Resolut Chromatogr 2000, 23, 245
Citations: 13) General Inspectorate for Health Protection, Ministry of Public Health, Welfare and Sport, The Netherlands; Analytical Methods for Pesticide Residues in Foodstuff 6th ed 1996
Citations: 14) Dalluege, J; J Sep Sci submitted
Citations: 15) Marriott, P; J Chromatogr A 2000, 866, 203
Citations: 16) Beens, J; J High Resolut Chromatogr 1998, 21, 47
Citations: 17) Stein, S; J Am Soc Mass Spectrom 1999, 10, 770
Citations: 18) Lee, A; Anal Chem 2001, 72, 1330 The sepn. provided by conventional gas chromatog. (1D-GC) can be significantly enhanced by using comprehensive 2-dimensional GC (GC*GC) instead. Combination with mass spectrometric detection is desirable for unambiguous confirmation of target compds. and the provisional identification of unknowns. A GC*GC system using a cryogenic modulator was coupled to a time-of-flight mass spectrometric (TOF MS) detector. With the detn. of pesticides in vegetable exts. as an example, it was demonstrated that GC*GC improves the sepn. dramatically. All 58 pesticides of interest could be identified using their full-scan mass spectra, which was not possible when using 1D-GC-TOF MS. In addn., the high scan speed of the TOF MS allowed the deconvolution of compds. partly co-eluting in GC*GC. [on SciFinder (R)] 0021-9673 pesticide/ detn/ vegetable/ GC/ TOF/ MS

291. Dalluge, Jens, Vreuls, Rene J. J., Beens, Jan, and Brinkman, Udo A. Th (2002). Optimization and characterization of comprehensive two-dimensional gas chromatography with time-of-flight mass spectrometric detection (GC * GC-TOF MS). *Journal of Separation Science* 25: 201-214.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2002:239050
Chemical Abstracts Number: CAN 137:1852
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Daucus carota (anal. of pesticide-spiked carrot ext. by two-dimensional gas chromatog. with time-of-flight mass spectrometric detection); Pesticides; Time-of-flight mass spectrometry (detn. by two-dimensional gas chromatog. with time-of-flight mass spectrometric detection); Gas chromatography (two-dimensional; detn. by two-dimensional gas chromatog. with time-of-flight mass spectrometric detection)
CAS Registry Numbers: 62-73-7 (Dichlorvos); 101-21-3 (Chlorpropham); 113-48-4 (MGK 264); 139-40-2 (Propazine); 314-40-9 (Bromacil); 563-12-2 (Ethion); 629-62-9 (Pentadecane); 732-11-6 (Phosmet); 759-94-4 (Eptam); 834-12-8 (Ametryn); 886-50-0 (Terbutryn); 950-35-6 (Methyl paraoxon); 957-51-7 (Diphenamide); 1014-70-6 (Simetryn); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1582-09-8 (Trifluralin); 1610-17-9 (ATraton); 1610-18-0 (Prometon); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 2008-41-5 (Butylate); 2212-67-1 (Molinate); 2921-88-2 (Chlorpyriphos); 5902-51-2 (Terbacil); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 13194-48-4 (Ethoprophos); 15299-99-7 (Napropamid); 15972-60-8 (Alachlor); 21725-46-2 (Cyanazine); 22248-79-9 (Stirofos); 23184-66-9 (Butachlor); 23950-58-5 (Propyzamide); 27314-13-2 (Norflurazon); 34014-18-1 (Tebuthiuron); 41814-78-2 (Tricyclazole); 43121-43-3 (Triadimefon); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 60168-88-9 (Fenarimol) Role: ANT (Analyte), ANST (Analytical study) (detn. by two-dimensional gas chromatog. with time-of-flight mass spectrometric detection); 57-10-3 (Hexadecanoic acid); 60-33-3 (9,12-Octadecadienoic acid (9Z,12Z)-); 63-42-3 (Lactose); 99-96-7; 112-85-6 (Docosanoic acid); 2104-96-3; 52557-29-6; 55191-44-1; 56211-13-3; 98678-70-7; 432027-38-8 Role: ANT (Analyte), ANST (Analytical study) (detn. in pesticide-spiked carrot ext. by two-dimensional gas chromatog. with time-of-flight mass spectrometric detection)
Citations: 1) Blomberg, J; J High Resol Chromatogr 1997, 20, 539
Citations: 2) de Boer, J; Environ Sci Technol 1997, 3, 873
Citations: 3) Frysinger, G; J High Resol Chromatogr 1999, 22, 195
Citations: 4) Beens, J; J Chromatogr A 2001, 919, 127
Citations: 5) Marriott, P; J High Resol Chromatogr 2000, 23, 253
Citations: 6) de Geus, H; J High Resol Chromatogr 2000, 23, 189
Citations: 7) van Deursen, M; J High Resol Chromatogr 2000, 23, 507
Citations: 8) Shellie, R; Anal Chem 2001, 73, 1336
Citations: 9) Dalluge, J; submitted to J Chromatogr A
Citations: 10) Phillips, J; J Chromatogr A 1999, 856, 331
Citations: 11) Marriott, P; Trends Anal Chem 1999, 18, 114
Citations: 12) Giddings, J; J High Resol Chromatogr 1987, 10, 319
Citations: 13) Beens, J; J Chromatogr A 1998, 822, 233
Citations: 14) Beens, J; J High Resol Chromatogr 1998, 21, 47
Citations: 15) Marriott, P; J Chromatogr A 2000, 866, 203
Citations: 16) Vreuls, R; J Microcol Sep 1999, 9, 663
Citations: 17) Lee, A; Anal Chem 2001, 72, 1330
Citations: 18) Holland, J; Anal Chem 1983, 55, 997A
Citations: 19) Adahchour, M; submitted to J Chromatogr A The influence of modulator temp., modulation frequency, temp. programming rate, and carrier gas velocity on the performance of

comprehensive two-dimensional gas chromatog. coupled to time-of-flight mass spectrometry (GC * GC-TOF MS) was studied. The system was characterized with respect to the repeatability of peak areas and retention times of selected analytes, their detection limits, and the linearity of their calibration plots. The system was found to be linear in the 0.01-3 ng range, and detection limits for the pesticides were between 5 and 23 pg. The performance of the system was compared with that of conventional one-dimensional (1D) GC-TOF MS, the advantages of TOF MS for identification and deconvolution are discussed, and several approaches for the processing of GC * GC-TOF MS data are explained with the emphasis on (semi)-automated data processing and the differences with 1D-GC-TOF MS. [on SciFinder (R)] 1615-9306 pesticide/ gas/ chromatog/ time/ of/ flight/ mass/ spectrometry

292. Damico, Joseph N (1966). Mass spectra of some organophosphorus pesticide compounds. *Journal - Association of Official Analytical Chemists* 49: 1027-45.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1967:1834
Chemical Abstracts Number: CAN 66:1834
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (phosphorus-contg., mass spectrum of)
Index Terms(2): Phosphoric acid Role: PRP (Properties) (mass spectrum of)
CAS Registry Numbers: 56-38-2; 56-72-4; 60-51-5; 78-34-2; 86-50-0; 121-75-5; 122-14-5; 298-00-0; 298-04-4; 299-84-3; 311-45-5; 333-41-5; 563-12-2; 732-11-6; 786-19-6; 953-17-3; 961-22-8; 962-58-3; 1113-02-6; 1634-78-2; 3689-24-5; 7786-34-7 Role: PRP (Properties) (mass spectrum of) The mass spectra of 23 quinquevalent organophosphorus pesticide esters were investigated. Rearrangements and fragmentation by simple cleavage are postulated from analogy with similar compds., from the presence of Cl atoms with their readily-recognizable isotopic distribution when applicable, from elemental compns. detd. by accurate mass measurements, and, in a few cases, from model compds. The compds. are divided into 4 groups: phosphorodithioates, phosphorothionates, phosphorothiolates, and phosphates. The base peaks are formed by rearrangements and simple cleavage. Rearrangement ions are formed by (1) H migration from the alkyl ester group to the thiophosphite-O skeleton; (2) migration of H from the Z moiety (aryl or alkyl group) to the P-O skeleton; (3) migration of H from the Z moiety to the thiophosphite-O skeleton; (4) migration of H from the ester group bonded to P to the Z moiety; and (5) alkyl migration to the Z moiety. The base peak does not characterize the different groups or compds. within a group. However, beta-cleavage (relative to the Z moiety) producing relatively intense peaks (with the charge on the Z moiety) is characteristic of a given group. These data may be useful in identifying metabolites isolated from crops field-sprayed with an individual parent organophosphorus pesticide. [on SciFinder (R)] 0004-5756 PHOSPHORODITHIOATES/ MASS/ SPECTRA;/ PESTICIDES/ MASS/ SPECTRA;/ MASS/ SPECTRA/ PESTICIDES;/ RESIDUES/ PESTICIDES/ DETN;/ PHOSPHATE/ MASS/ SPECTRA;/ PHOSPHOROTHIOLATES/ MASS/ SPECTRA;/ PHOSPHOROTHIONATES/ MASS/ SPECTRA

293. Damico, Joseph N., Barron, R. P., and Sphon, J. A (1969). Field ionization spectrum of some pesticidal and other biologically significant compounds. *International Journal of Mass Spectrometry and Ion Physics* 2: 161-82.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1969:105767
Chemical Abstracts Number: CAN 70:105767

Section Code: 22
Section Title: Physical Organic Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (field ionization spectra of); Mass spectra (of pesticides, field ionization)
CAS Registry Numbers: 56-38-2; 60-51-5; 63-25-2; 64-00-6; 72-20-8; 78-34-2; 101-21-3; 114-26-1; 116-06-3; 121-75-5; 122-14-5; 122-42-9; 126-75-0; 298-00-0; 298-04-4; 309-00-2; 311-45-5; 333-41-5; 465-73-6; 563-12-2; 644-64-4; 732-11-6; 1113-02-6; 1646-87-3; 1646-88-4; 2032-65-7; 5375-49-5; 18790-77-7; 22923-85-9; 22923-87-1 Role: PRP (Properties) (field ionization spectrum of); 60-57-1P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of)
Comparison of the field ionization and electron impact spectra of 31 complex org. mol. indicates that field ionization offers structural information which complements electron impact data. Mol. ion intensities were enhanced by field ionization for the compds. examd. Metastable peaks were observed only for those processes involving mol. ion decompns. Rearrangement and multistep processes were quite common, but those processes involving expulsion of CO as a neutral mol. and McLafferty rearrangements are in general of only minor importance in field ionization of org. mols. [on SciFinder (R)] 0020-7381 field/ ionization/ spectra/ pesticides;/ pesticides/ field/ ionization/ spectra

294. Danilenko, L. P. ([Clinical Aspects and Therapy of Phthalophos Poisoning]. *Vrach delo. 1969, jan; 1:121-4. [Vrachebnoe delo]: Vrach Delo*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Cholinesterase Inhibitors/poisoning
MESH HEADINGS: Humans
MESH HEADINGS: Insecticides/*poisoning
MESH HEADINGS: Phosphorus/poisoning
MESH HEADINGS: Poisoning/drug therapy
MESH HEADINGS: Rats
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Klinika i terapiia otrvleniĭ ftalofosom.

295. Danilenko, L. P. ([On Substantiation of the Maximum Permissible Concentration of Phthalophos in the Air of Work Zones]. *Gig sanit. 1969, feb; 34(2):30-5. [Gigiena i sanitariia]: Gig Sanit*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: *Air Pollution
MESH HEADINGS: Animals
MESH HEADINGS: Cats
MESH HEADINGS: Chemical Industry
MESH HEADINGS: Environmental Exposure
MESH HEADINGS: Guinea Pigs
MESH HEADINGS: Indoles/poisoning
MESH HEADINGS: Insecticides/*poisoning
MESH HEADINGS: Maximum Allowable Concentration
MESH HEADINGS: Mice
MESH HEADINGS: Phosphoric Acids/*poisoning
MESH HEADINGS: Rats
MESH HEADINGS: USSR
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: K obosnovaniiu predel'no dopustimoĭ kontsentratsii ftalofosa v vozdukhe rabocheĭ zony.

296. Dassa, J., Fsihi, H., Marck, C., Dion, M., Kieffer-Bontemps, M., and Boquet, P. L. (A New Oxygen-

Regulated Operon in Escherichia Coli Comprises the Genes for a Putative Third Cytochrome Oxidase and for Ph 2.5 Acid Phosphatase (Appa). *Mol gen genet. 1991, oct; 229(3):341-52. [Molecular & general genetics : mgg]: Mol Gen Genet.*
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

COMMENTS: Erratum in: Mol Gen Genet 1992 Jun;233(3):491
ABSTRACT: The Escherichia coli acid phosphatase gene appA is expressed in response to oxygen deprivation and is positively controlled by the product of appR (katF) which encodes a putative new sigma transcription-initiation factor. However, transcription of appA from its nearest promoter (P1) did not account for total pH 2.5 acid phosphatase expression and was not subject to regulation. The cloned region upstream of appA was extended and analyzed by insertions of transposon TnphoA and by fusions with lacZ. It contains two new genes, appC and appB, which both encode extracytoplasmic proteins. appC and appB are expressed from a promoter (P2) lying just upstream of appC. Both genes are regulated by oxygen, as is appA, and by appR gene product exactly as previously shown for appA. Analysis of the nucleotide sequence and of the origins of transcription have confirmed that the P2-appC-appB- (ORFX)-P1-appA region is organized on the chromosome as an operon transcribed clockwise from P2 and that P1 is a minor promoter for appA alone. Genes appC and appB encode proteins of Mr 58,133 and 42,377, respectively, which have the characteristics of integral membrane proteins. The deduced amino acid sequences of appC and appB show 60% and 57% homology, respectively, with subunits I and II of the E. coli cytochrome d oxidase (encoded by genes cydA and cydB). The notion that the AppC and AppB proteins constitute a new cytochrome oxidase or a new oxygen-detoxifying system is supported by the observation of enhanced sensitivity to oxygen of mutants lacking all three genes, cyo (cytochrome o oxidase), cyd (cytochrome d oxidase) and appB, compared to that of cyo cyd double mutants.
MESH HEADINGS: Acid Phosphatase/*genetics/metabolism
MESH HEADINGS: Amino Acid Sequence
MESH HEADINGS: *Bacterial Outer Membrane Proteins
MESH HEADINGS: Bacterial Proteins/*genetics/metabolism
MESH HEADINGS: Base Sequence
MESH HEADINGS: DNA Transposable Elements
MESH HEADINGS: DNA, Bacterial
MESH HEADINGS: Electron Transport Complex IV/*genetics/metabolism
MESH HEADINGS: Escherichia coli/enzymology/*genetics
MESH HEADINGS: *Escherichia coli Proteins
MESH HEADINGS: Gene Expression Regulation, Bacterial
MESH HEADINGS: Gene Expression Regulation, Enzymologic
MESH HEADINGS: Genes, Bacterial
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Molecular Sequence Data
MESH HEADINGS: Mutagenesis
MESH HEADINGS: *Operon
MESH HEADINGS: *Oxidoreductases
MESH HEADINGS: Oxygen/physiology
MESH HEADINGS: Promoter Regions (Genetics)
MESH HEADINGS: Restriction Mapping
MESH HEADINGS: Sequence Alignment
MESH HEADINGS: Transcription, Genetic
MESH HEADINGS: Transduction, Genetic
LANGUAGE: eng

297. Datta, P. S., Deb, D. L., and Tyagi, S. K. (1996). Stable Isotope (18o) Investigations on the Processes Controlling Fluoride Contamination of Groundwater. *Journal of contaminant hydrology* 24: 85-96.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Groundwater is being used extensively in the Delhi area for both irrigation and raw water requirement. Fluoride contamination in groundwater is therefore a matter of concern for the planners and managers of water resources. Stable isotope (18O) and fluoride signatures in groundwater have been discussed, in this context, to characterise the sources and controlling processes of fluoride contamination. The study indicates that almost 50% of the area is affected by fluoride contamination beyond the maximum permissible limit. The wide range (0.10-16.5 ppm) in fluoride concentration suggests contributions from both point and non-point sources. Very high fluoride levels in groundwater are mostly found in the vicinity of brick kilns. Significant quantities of evaporated (isotopically enriched) rainfall, irrigation water and surface runoff water from surrounding farmland also percolate along with fluoride salts from the soils to the groundwater system. The process of adsorption
MESH HEADINGS: ISOTOPES
MESH HEADINGS: RADIATION
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
KEYWORDS: Radiation-Radiation and Isotope Techniques
KEYWORDS: Biochemical Studies-General
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
LANGUAGE: eng

298. Datta, P. S., Deb, D. L., and Tyagi, S. K. (1996). Stable Isotope (Super(18)O) Investigations on the Processes Controlling Fluoride Contamination of Groundwater. *Journal of Contaminant Hydrology. Vol. 24, no. 1, pp. 85-96. Oct 1996.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0169-7722
Descriptors: Article Subject Terms: stable isotopes
Descriptors: oxygen isotopes
Descriptors: fluorides
Descriptors: groundwater pollution
Descriptors: water resources management
Descriptors: water quality standards
Descriptors: salts
Descriptors: water management
Descriptors: pollution control
Descriptors: isotopes
Descriptors: fluoride
Descriptors: Article Geographic Terms: India, Delhi
Abstract: Groundwater is being used extensively in the Delhi area for both irrigation and raw water requirement. Fluoride contamination in groundwater is therefore a matter of concern for the planners and managers of water resources. Stable isotope (super(18)O) and fluoride signatures in groundwater have been discussed, in this context, to characterise the sources and controlling processes of fluoride contamination. The study indicates that almost 50% of the area is affected by fluoride contamination beyond the maximum permissible limit. The wide range (0.10-16.5 ppm) in fluoride concentration suggests contributions from both point and non-point sources. Very high fluoride levels in groundwater are mostly found in the vicinity of brick kilns. Significant quantities of evaporated (isotopically enriched) rainfall, irrigation water and surface runoff water from surrounding farmland also percolate along with fluoride salts from the soils to the groundwater system. The process of adsorption and dispersion of fluoride species in the soil as well as lateral mixing of groundwater along specific flow-paths control the groundwater fluoride and super(18)O composition. The groundwater system has more than two isotopically distinct non-point source origins, causing spatial and temporal variations in fluoride concentration. Issues related to harmful

effects of excessive use of high-fluoride groundwater and management options have also been discussed.
Language: English
English
Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: SW 3020 Sources and fate of pollution
Classification: Q5 01505 Prevention and control
Classification: P 2000 FRESHWATER POLLUTION
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

299. Davey, Graham P., Ward, Lawrence J. H., and Brown, Julie C. S. (1995). Characterisation of four Leuconostoc bacteriophages isolated from dairy fermentations. *FEMS Microbiology Letters* 128: 21-25.
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

Four bacteriophages (phages) growing on the same Leuconostoc strain were characterised. Electron micrographs showed these phages to be similar in morphology to the commonly isolated lactococcal phages with head diameters ranging from 49-55 nm and tail lengths of 117-131 nm. A distinctive base plate and collar were also present. From restriction enzyme analysis of purified phage DNA, the genome sizes were 23-29 kb. All four phages showed one major structural protein (of approximately 24 kDa) on SDS polyacrylamide gels. Hybridization experiments confirmed that the phages belonged to the same homology group. There was no homology between DNA from these phages and DNA from a prolate or small isometric lactococcal phage. Leuconostoc/ Bacteriophage/ Electron microscopy/ Phage protein/ Hybridisation
http://www.sciencedirect.com/science/article/B6T2W-3XY2KH8-1F/2/7548439255a4479c7254f89eb1e7bec3

300. Davidek, J (1980). Polarographic analysis of pesticides in food products. *Analytical Chemistry Symposia Series* 2: 399-412.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1980:424493
Chemical Abstracts Number: CAN 93:24493
Section Code: 17-0
Section Title: Foods
CA Section Cross-References: 5
Document Type: Journal; General Review
Language: written in English.
Index Terms: Insecticides; Pesticides (carbamate and phosphorus-contg., detn. of, in food, polarog.); Polarography (of pesticides); Food analysis (pesticides detn. in, by polarog.)
CAS Registry Numbers: 52-68-6; 62-73-7; 122-14-5; 133-07-3; 732-11-6 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in food products by polarog.) A review and discussion with 30 refs. on the polarog. detn. of pesticides in food prodn. with special emphasis on such P-contg. and carbamate insecticides as fenitrothion [122-14-5], trichlorfon [52-68-6], dichlorvos [62-73-7], phosmet [732-11-6], and folpet [133-07-3]. [on SciFinder (R)] 0167-6350 review/ food/ pesticide/ detn/ polarog

301. Davidek, Jiri, Nemethova, Miloslava, and Seifert, Josef (1977). Indirect polarographic determination of phosmet O,O-dimethyl-S-(phthalimidomethyl)dithiophosphate. *Fresenius' Zeitschrift fuer Analytische Chemie* 287: 286-7.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1978:61207
Chemical Abstracts Number: CAN 88:61207
Section Code: 17-1
Section Title: Foods
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Apple (phosmet detn. in, polarog.)
CAS Registry Numbers: 732-11-6 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in apple, polarog.) The method is based on the fact that N-hydroxymethylphthalimide formed by the reaction of phosmet [732-11-6] with H2SO4 is polarog. active and exhibits a behavior during electrolysis at a Hg dropping-electrode similar to that of phthalimide. The method has been applied to the detn. of phosmet in apples. The sensitivity is 0.1 ppm. [on SciFinder (R)] 0016-1152 phosmet/ polarog/ apple

302. Dawar, R., Qaiser, M., and Perveen, A. (2002). Pollen Morphology of Inula L. (S.str.) And Its Allied Genera (Inuleae-Compositae) From Pakistan and Kashmir. *Pakistan Journal of Botany, 34 (1) pp. 9-22, 2002*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0556-3321
Abstract: The pollen morphology of 22 species of Inula L. (s.str.) and its allied genera has been examined from Pakistan and Kashmir by light and scanning electron microscopy. Pollen grains are usually radially symmetrical, isopolar, prolate-spheroidal rarely oblate-spheroidal, tricolporate occasionally tetracolporate, zonoaperturate. Sexine slightly thicker than nexine or as thick as nexine. Tectum echinate, spines with acute-acuminate or rounded apices. On the basis of pollen size and tectum pattern in between spines, 3 major pollen types viz., Pollen type I: Duhaldea cappa, Pollen type II: Inula acuminata, Pollen type III: Pentanema divaricatum are recognized.
33 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Pakistan
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.14.2.1 DIVERSITY: Flora Reports and Plant Geography: General flora
Subfile: Plant Science

303. de Boer, Rob J. and Hogeweg, Pauline (1989). Idiotypic networks incorporating T-B cell co-operation. The conditions for percolation. *Journal of Theoretical Biology* 139: 17-38.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Previous work was concerned with symmetric immune networks of idiotypic interactions amongst B cell clones. The behaviour of these networks was contrary to expectations. This was caused by an extensive percolation of idiotypic signals. Idiotypic activation was thus expected to affect almost all (>107) B cell clones. We here analyse whether the incorporation of helper T cells (Th) into these B cell models could cause a reduction in the percolation. Empirical work on idiotypic interactions between Th and B cells however, would suggest that two different idiotypic Th models should be developed: (1) a Th which recognises native B cell idiotypes, i.e. a non-MHC-restricted "ThId" model, and (2) a "classical" MHC-restricted helper T cell model. In the ThId model, the Th-B cell interaction is symmetric. A 2-D model of a Th and a B cell clone that interact idiotypically with each other accounts for various equilibria (i.e. one virgin and two immune states). Introduction of antigen does indeed lead to a state switch from the virgin to the immune state; such a system is thus able to "remember" its exposure to antigen. Idiotypic signals do however, percolate in ThId models via these "B-Th-B-Th" pathways: proliferating Th and B cell clones that interact idiotypically, will always activate each other reciprocally. In the MHC-restricted Th model, Th-B interactions are asymmetric. Because the B cell idiotypes are processed and subsequently presented by MHC molecules, the Th receptor and the native B cell receptor are not expected to be complementary. Thus the Th and the B cells are unable to activate each other reciprocally, and a 2-D Th-B cell model cannot account for idiotypic memory. In contrast to the ThId model, idiotypic activation cannot percolate via "B-Th-B-Th" interactions. Due to the assymmetry idiotypic activation stops at the first Th level. A Th clone cannot activate a subsequent B cell clone: if the B cells recognise the Th cells, they see idiotype but get no help; if the Th cells see the B cells, the B cells are helped but see no idiotype. The percolation along "B-B-B" pathways in these two models is next analysed. Two B cells clones, each helped by one Th clone, are connected by a symmetric idiotypic interaction. It turns out that in both models the second (i.e. anti-idiotypic) B cells (B2) never proliferate. The anti-idiotypic B cells are activated whenever the first (idiotypic) B cells (B1) proliferate, but because the activated B2 cells are not being helped, they fail to proliferate. Thus, because the third level Th cells (T3) are not being activated by the idiotypic cascade, signals never percolate along "B-B-B" pathways in both models. Percolation is subsequently analysed in 200-D networks, comprised of random mixtures of "B-B" and "B-Th" pathways. As soon as the connectivity of the symmetric Th-B interactions exceeds a threshold level of two connections per clone, the idiotypic cascade percolates extensively in the ThId model. Conversely, due to the asymmetry, signals do not percolate at all in the MHC-restricted networks. Helper T cells thus set the conditions for idiotypic signal percolation. Firstly, considering "B-B" cell idiotypic interactions, it turns out to be essential to consider the activation of helper T cells (i.e. T3) for the anti-idiotypic B cells (B2). Secondly, due to the asymmetry, MHC-restricted Th and ThId cells differ with respect to the constitution of functional networks based on a "B-Th-B-Th" topology. MHC-restricted Th cells may altogether prevent the development of functional idiotypic interactions. Thus, idiotypic networks are not necessarily "unavoidable". http://www.sciencedirect.com/science/article/B6WMD-4KD4YD6-4/2/6026943ca16f1ecbb164b6284bdfdd91

304. de Fabrizio, S. V., Ledford, R. A., Shieh, Y. S. C., Brown, J., and Parada, J. L. (1991). Comparison of lactococcal bacteriophage isolated in the United States and Argentina. *International Journal of Food Microbiology* 13: 285-293.
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

Bacteriophage of Lactococcus lactis ssp. lactis and ssp. cremoris, isolated in the United States and Argentina, were compared with respect to host range, adsorption, latent period, burst size and immunological cross-reactivity. Only 1 out of 13 U.S. culture isolates was sensitive to Argentinian phage. Argentinian L. lactis ssp. lactis C2 mutants were resistant to 13 U.S. phage isolates (4 prolate and 9 isometric). While Argentinian phage Stl-3 multiplied on U.S. culture isolate 59-1, low adsorption (38%) and insignificant burst size and latent period data were evident. Antisera prepared against U.S. phage D59-1 (prolate) and F4-1 (isometric) neutralized the lytic activities of all Argentinian prolate phage although the F4-1 antiserum was less effective. The data suggest homology especially between U.S. phage D59-1 and the Argentinian phage. Bacteriophage/ Lactococcus lactis/ Immunological cross-reactivity/ Host range/ Adsorption/ Burst size http://www.sciencedirect.com/science/article/B6T7K-476W7YM-D7/2/aa4da443223f845f47c1de37ea554b7e

305. de Julian-Ortiz, J. V., Garcia-Domenech, R., Galvez, J., and Pogliani, L (2005). Predictability and prediction of lowest observed adverse effect levels in a structurally heterogeneous set of chemicals. *SAR and QSAR in Environmental Research* 16: 263-272.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS

Accession Number: AN 2005:279739
Chemical Abstracts Number: CAN 143:110849
Section Code: 4-4
Section Title: Toxicology
CA Section Cross-References: 5, 59
Document Type: Journal
Language: written in English.
Index Terms: Environmental modeling; Risk assessment; Simulation and Modeling; Simulation and Modeling (predictability and prediction of lowest obsd. adverse effect levels in a structurally heterogeneous set of chems.)
CAS Registry Numbers: 50-18-0 (Cyclophosphamide); 63-25-2 (Carbaryl); 67-45-8 (Furazolidone); 67-66-3 (Chloroform); 71-55-6 (1,1,1-Trichloroethane); 74-85-1 (Ethylene); 75-09-2 (Dichloromethane); 75-69-4 (Fluorotrichloromethane); 75-71-8 (Dichlorodifluoromethane); 75-99-0 (Dalapon); 79-06-1 (Acrylamide); 80-62-6 (Methyl-methacrylate); 81-07-2 (Saccharin); 84-66-2 (Diethylphthalate); 84-72-0 (Ethylphthalyl ethyl-glycolate); 85-44-9 (Phthalic anhydride); 87-68-3 (Hexachlorobutadiene); 87-84-3 (1,2,3,4,5-Pentabromo-6-chlorocyclohexane); 87-86-5 (Pentachlorophenol); 92-41-1 (2,7-Naphthalenedisulfonic acid); 92-52-4 (1,1'-Biphenyl); 93-65-2 (2-(2-Methyl-4-chloro-phenoxy) propionic acid); 93-76-5 (Trichlorophenoxy acetic acid); 94-75-7 (2,4-Dichlorophenoxy acetic acid); 95-53-4; 95-57-8 (2-Chlorophenol); 95-70-5 (Toluene-2,5-diamine); 97-63-2 (Ethylmethacrylate); 100-21-0 (p-Phthalic acid); 101-21-3 (Chlorpropham); 103-69-5 (N-Ethylaniline); 106-50-3 (p-Phenylenediamine); 107-07-3 (Chloroethanol); 107-15-3 (Ethylenediamine); 107-18-6 (Allyl alcohol); 107-21-1 (Ethylene glycol); 108-31-6 (Maleic anhydride); 108-91-8 (Cyclohexylamine); 110-16-7 (Maleic acid); 110-80-5 (2-Ethoxyethanol); 111-90-0 (Diethylene glycol monoethyl ether); 117-81-7 (Di-2-ethylhexyl phthalate); 120-36-5 (Dichloroprop); 120-61-6 (Dimethyl terephthalate); 120-82-1 (1,2,4 Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-82-4 (RDX); 122-39-4 (N,N-Diphenylamine); 131-11-3 (Dimethyl phthalate); 139-40-2 (Propazine); 148-18-5 (Sodium diethyl dithiocarbamate); 298-00-0 (O,O Dimethyl-O,p-nitro-phenylphosphorothioate); 330-55-2 (Linuron); 732-11-6 (Phosmet); 823-40-5 (TOluene-2,6-diamine); 886-50-0 (Terbutryn); 1031-47-6 (Triamiphos); 1071-83-6 (Glyphosate); 1861-32-1 (Dacthal); 1929-77-7 (Vernolate); 2921-88-2 (Chlorpyrifos); 6923-22-4 (Monocrotophos); 15299-99-7 (Napropamide); 19666-30-9 (Oxadiazon); 21725-46-2 (Cyanazine); 23135-22-0 (Oxamyl); 23564-05-8 (Thiophanatemethyl); 28249-77-6 (Thiobencarb); 34014-18-1 (Tebuthiuron); 39638-32-9 (Bis (2-chloroisopropyl) ether); 40487-42-1 (Pendimethalin); 43121-43-3 (Bayleton); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 52645-53-1 (Permethrin); 55285-14-8 (Carbosulfan); 55290-64-7 (Dimethipin); 59756-60-4 (Fluridone); 62476-59-9 (Sodiumacifluorfen); 64902-72-3 (Chlorsulfuron); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Baythroid); 76578-14-8 (Assure); 79277-27-3 (Harmony); 82558-50-7 (Isoxaben) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (predictability and prediction of lowest obsd. adverse effect levels in a structurally heterogeneous set of chems.)
Citations: 1) Mumtaz, M; Toxicol Lett 1995, 79, 131
Citations: 2) Pogliani, L; Chem Rev 2000, 100, 3827
Citations: 3) Gozalbes, R; Curr Drug Targets Infect Disord 2002, 2, 93
Citations: 4) Tomovic, Z; J Chem Inf Comput Sci 2001, 41, 1041
Citations: 5) Torrens, F; J Chem Inf Comput Sci 2004, 44, 60
Citations: 6) Estrada, E; Chem Res Toxicol 2003, 16, 1226
Citations: 7) Galvez, J; J Mol Graph Model 2001, 20, 84
Citations: 8) Murcia-Soler, M; J Chem Inf Comput Sci 2003, 43, 1688
Citations: 9) Ivanciuc, O; J Chem Inf Comput Sci 2002, 42, 8
Citations: 10) Torrens, F; J Comput Aided Mol Des 2001, 15, 709
Citations: 11) Besalu, E; Acc Chem Res 2002, 35, 289
Citations: 12) Golbraikh, A; J Chem Inf Comput Sci 2002, 42, 769
Citations: 13) Basak, S; J Chem Inf Comput Sci 2001, 41, 671
Citations: 14) Garcia, D; DESCRI version 2003, Ramon.Garcia@uv.es
Citations: 15) Furnival, G; Technometrics 1974, 16, 499
Citations: 16) Derosa, C; Toxicol Ind Health 1985, 1, 177

Citations: 17) Galvez, J; J Chem Inf Comp Sci 1995, 35, 272
Citations: 17) Galvez, J; J Chem Inf Comp Sci 1995, 35, 938
Citations: 18) Wiener, H; J Am Chem Soc 1947, 69, 17
Citations: 19) Kier, L; J Pharm Sci 1976, 65, 1226
Citations: 20) de Julian-Ortiz, J; J Med Chem 1999, 42, 3308
Citations: 21) Kier, L; J Pharm Sci 1983, 72, 1170
Citations: 22) Galvez, J; J Chem Inf Comput Sci 1994, 34, 520 A database of chronic lowest obsd. adverse effect levels (LOAELs) for 234 compds., previously compiled from different sources (M. Mumtaz et al., Toxicol. Letters 79, 131-143 (1995)), was modeled using graph theor. descriptors. This study reveals that data are not homogeneous. Only those data originating from the U.S. Environmental Protection Agency (EPA) reports could be well modeled by multilinear regression (MLR) and linear discriminant anal. (LDA). In contrast, data available from the specific procedures of the National Toxicol. Program (NTP) database introduced noise and did not render good models either alone, or in combination with the EPA data. [on SciFinder (R)] 1062-936X linear/ discriminant/ analysis/ modeling/ lowest/ obsd/ adverse/ effect/ level;/ multilinear/ regression/ modeling/ lowest/ obsd/ adverse/ effect/ level;/ lowest/ obsd/ adverse/ effect/ level/ environmental/ modeling

306. de la Colina, C., Pena, A., Mingorance, M. D., and Sanchez Rasero, F (1996). Influence of the solid-phase extraction process on calibration and performance parameters for the determination of pesticide residues in water by gas chromatography. *Journal of Chromatography, A* 733: 275-281.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:313352
Chemical Abstracts Number: CAN 125:41240
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (influence of solid-phase extn. process on calibration and performance parameters for detn. of pesticide residues in water by gas chromatog.)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (influence of solid-phase extn. process on calibration and performance parameters for detn. of pesticide residues in water by gas chromatog.); 50-29-3 (p,p'-Ddt); 55-38-9 (Fenthion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 72-55-9 (p,p'-Dde); 86-50-0 (Azinphos methyl); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 789-02-6 (o,p'-Ddt); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1582-09-8 (Trifluralin); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyriphos); 3424-82-6 (o,p'-Dde); 15972-60-8 (Alachlor); 18181-80-1 (Bromopropylate); 42874-03-3 (Oxyfluorfen); 52918-63-5 (DeltaMethrin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (influence of solid-phase extn. process on calibration and performance parameters for detn. of pesticide residues in water by gas chromatog.) Twenty-six organophosphorus, organochlorine and other electron-capture detection-sensitive pesticides were extd. from water in a single step using a C18 solid-phase extn. cartridge, eluted with Et acetate and isooctane and detd. by gas chromatog. with electron-capture and flame photometric detection. The calibration equation for the extn. method was calcd. for a 20-fold concn. range, including the EC limit of 0.1 mg/L. The linearity, precision, sensitivity and detection limit of the method were studied, applying the statistical model of linear regression. A lack of linearity was obsd. for fenthion, deltamethrin and trifluralin, but the proposed method was suitable for other pesticides studied. The limits of detection are 20-120 ng/L applying the calibration graph and from 1 to 40 ng/L based on a signal-to-noise ratio of 3:1. [on SciFinder (R)] 0021-9673 solid/ phase/ extn/ calibration/ pesticide/ water;/ pesticide/ water/ gas/ chromatog

307. de la Colina, C., Pena Heras, A., Dios Cancela, G., and Sanchez Rasero, F (1993). Determination of organophosphorous and nitrogen-containing pesticides in water samples by solid phase extraction with gas chromatography and nitrogen-phosphorus detection. *Journal of Chromatography* 655: 127-32.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1994:127582
Chemical Abstracts Number: CAN 120:127582
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 61, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in water, by solid phase extn. and gas chromatog.); Chromatography (pesticides detn. by, in water, solid phase extn. in)
CAS Registry Numbers: 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2921-88-2 (Chlorpyriphos); 23103-98-2 (Pirimicarb); 33089-61-1 (Amitraz); 60207-90-1 (Propiconazole) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in water, by solid phase extn. and gas chromatog.); 7732-18-5 (Water) Role: ANST (Analytical study) (pesticides detn., by gas chromatog., solid phase extn. in) Organophosphorus and nitrogen-contg. pesticides were extd. from water using solid-phase extn. (SPE) with Sep-Pak C18 cartridges and eluted with acetone and hexane. Different methods were evaluated to conc. the eluates and, finally, pesticides were detd. in the concd. eluates by gas-liq. chromatog. with nitrogen-phosphorus detection. Recoveries varied with the physico-chem. properties of the pesticides, being from 0% to 91%. [on SciFinder (R)] 0021-9673 pesticide/ water/ detn/ extn/ gas/ chromatog

308. de la Colina, C., Sanchez-Rasero, F., Dios, G., Romero, E., and Pena, A (1997). Effect of storage on the recovery of different types of pesticides using a solid-phase extraction method. *Analyst (Cambridge, United Kingdom)* 122: 7-11.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:85926
Chemical Abstracts Number: CAN 126:100620
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Pesticides; Storage (effect of storage time and temp. on detn. of pesticide recovery in water)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (effect of storage time and temp. on detn. of pesticide recovery in water); 50-29-3; 55-38-9 (Fenthion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 72-55-9; 86-50-0 (Azinphos methyl); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 789-02-6; 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1582-09-8 (Trifluralin); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2921-88-2 (Chlorpyriphos); 3424-82-6; 15972-60-8 (Alachlor); 18181-80-1 (Bromopropylate); 42874-03-3 (Oxyfluorfen); 52918-63-5 (Deltamethrin) Role: ANT (Analyte), ANST (Analytical study) (effect of storage time and temp. on detn. of pesticide recovery in water) Recoveries of different pesticide groups after storage, either on C18 cartridges or as dried residues from org. solns., and their anal. by gas chromatog. with electron

capture and flame photometric detection, were studied. Two storage temps., 4 and -18 Deg, and 3 storage periods, 3, 7 and 30 days, were considered. The effect of storage temp. and storage time on the recovery of 27 pesticides in water was investigated. The pesticide recoveries were >=70% after 30 days of storage at -18 Deg on C18 cartridges. Exceptions included captan and folpet. The storage of the dried residues did not affect the pesticide recovery when kept at -18 Deg for up to 30 days. [on SciFinder (R)] 0003-2654 storage/ time/ temp/ pesticide/ recovery/ water

309. de la Colina, Clara, Sanchez-Rasero, Francisco, Cancela, Gonzalo Dios, Taboada, Esperanzo Romero, and Pena, Aranzazu (1995). Use of a solid phase extraction method for the analysis of pesticides in groundwater by gas chromatography with electron capture and flame photometric detectors. *Analyst (Cambridge, United Kingdom)* 120: 1723-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:637759
Chemical Abstracts Number: CAN 123:40521
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (solid phase extn. anal. of pesticides in groundwater by gas chromatog. with electron capture and flame photometric detectors)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (solid phase extn. anal. of pesticides in groundwater by gas chromatog. with electron capture and flame photometric detectors); 50-29-3; 55-38-9 (Fenthion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 72-55-9; 86-50-0 (Azinphos-methyl); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 789-02-6; 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1582-09-8 (Trifluralin); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2921-88-2 (Chlorpyriphos); 3424-82-6; 15972-60-8 (Alachlor); 18181-80-1 (Bromopropylate); 42874-03-3 (Oxyfluorfen); 52918-63-5 (Deltamethrin) Role: ANT (Analyte), ANST (Analytical study) (solid phase extn. anal. of pesticides in groundwater by gas chromatog. with electron capture and flame photometric detectors) Organophosphorus, organochlorine and electron-capture sensitive pesticides were extd. from water in a single step using a C18 solid phase extn. cartridge, eluted with Et acetate and isooctane and detd. by GC with electron-capture and flame photometric detection. Anal. aspects of the method were studied with a linear regression model, including the linearity of the responses, repeatability and detection limits, which ranged from 3 to 35 mg/L. The method of concn. used did not contribute to a noticeable loss of the chems., with recoveries of over 90%, except for fenthion. The method is applied to the anal. of 27 pesticides in groundwater, most of which are recovered at >70% efficiency which complies with the EPA criteria. [on SciFinder (R)] 0003-2654 solid/ phase/ extn/ pesticide/ groundwater;/ pesticide/ groundwater/ gas/ chromatog

310. de Lima, A. G. B., Queiroz, M. R., and Nebra, S. A. (2002). Simultaneous moisture transport and shrinkage during drying of solids with ellipsoidal configuration. *Chemical Engineering Journal* 86: 85-93.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

This work presents a two-dimensional diffusional model to predict the simultaneous mass transfer and shrinkage during drying of solids with prolate spheroidal shape, considering that the changes in volume of solid are equal to the volume of evaporated water. The resulting equations are numerically solved, using the finite-volume method. This model was used to study numerically the effect of the air-drying conditions and shrinkage on the drying kinetic of banana peel for six experiments, considering the natural shape of this fruit. Here, it was treated as an ellipsoid of revolution. Several results are shown and analyzed such as the comparison between numerical and experimental data; the dimensionless shrinkage parameters; the relationships of length, superficial area and volume; the moisture content distribution and finally the mass transfer and diffusion coefficients. Drying/ Simulation/ Mass/ Shrinkage/ Ellipsoidal geometry/ Banana http://www.sciencedirect.com/science/article/B6TFJ-44VGBXK-2/2/505aad2e430aaaf73a8e901b9b40f03b

311. de Potas, Gladis M. and de D'Angelo, Ana M. P (1993). Phosphoinositide phosphorylation and shape changes produced by phosmet-oxon in human erythrocytes. *Comparative Biochemistry and Physiology, Part C: Pharmacology, Toxicology & Endocrinology* 106C: 561-6.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:47721
Chemical Abstracts Number: CAN 120:47721
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Cell morphology (of human erythrocyte, phosmetoxon effect on); Phosphorylation (of phosphoinositide, by human erythrocyte, phosmetoxon effect on); Cell membrane (phosphatidylinositol kinase of human erythrocyte, phosmetoxon effect on, phosphodiesterase in relation to); Erythrocyte (phosphoinositide phosphorylation by human, phosmetoxon effect on, shape changes in relation to); Phosphoinositides Role: BIOL (Biological study) (phosphorylation of, by human erythrocyte, phosmetoxon effect on); Phosphoinositides Role: FORM (Formation, nonpreparative) (di-, formation of, by human erythrocyte membranes, phosmetoxon effect on); Phosphoinositides Role: FORM (Formation, nonpreparative) (tri-, formation of, by human erythrocyte membranes, phosmetoxon effect on)
CAS Registry Numbers: 37205-54-2 (Phosphatidylinositol kinase); 73903-97-6 (Polyphosphoinositide phosphodiesterase) Role: BIOL (Biological study) (of human erythrocyte membranes, phosmetoxon effect on); 732-11-6 (Phosmet) Role: BIOL (Biological study) (phosmetoxon as metabolite of, toxicity of, to human erythrocyte, phosphoinositide phosphorylation and shape changes in relation to); 3735-33-9 (Phosmetoxon) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, to human erythrocyte, phosphoinositide phosphorylation and shape changes during) In vitro incubation of red blood cells with phosmetoxon induced crenated and invaginated forms. [32P] phosphate incorporation was greater in membranes from erythrocytes exposed to 300 nM phosmetoxon for 10 min than in control cells. The highest incorporation was for phosphatidylinositol (PI), followed by phosphatidylinositol phosphate (PIP) and phosphatidylinositolbiphosphate (PIP2). An activation of phosphatidylinositol (PI) kinase was detected with 150 and 300 nM of the pesticide, while there was no change in polyphosphoinositides (PPI) phosphodiesterase activity. Results suggest an assocn. between changes in PI kinase activity, the phosphorylation cycle of phosphatidylinositols and alterations in erythrocyte morphol. induced by phosmetoxon. [on SciFinder (R)] 0742-8413 phosphoinositide/ phosphorylation/ phosmetoxon/ erythrocyte/ morphol

312. Decker, Shawn P., Klabunde, John S., Khaleel, Abbas, and Klabunde, Kenneth J (2002). Catalyzed Destructive Adsorption of Environmental Toxins with Nanocrystalline Metal Oxides. Fluoro-, Chloro-, Bromocarbons, Sulfur, and Organophosphorus Compounds. *Environmental Science and Technology* 36: 762-768.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:936123
Chemical Abstracts Number: CAN 136:221001
Section Code: 59-4

Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 60, 67
Document Type: Journal
Language: written in English.
Index Terms: Adsorption; Decomposition catalysts; Sorbents (catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping); Transition metals Role: CAT (Catalyst use), MOA (Modifier or additive use), USES (Uses) (catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping); Adsorbents (destructive catalytic; catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping); Organic compounds Role: PEP (Physical, engineering or chemical process), PYP (Physical process), RCT (Reactant), REM (Removal or disposal), PROC (Process), RACT (Reactant or reagent) (phosphorus-contg.; catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping); Toxicants (solid waste; catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping); Hazardous wastes (solid, toxic; catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping); Solid wastes; Waste gases; Wastes (toxic; catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping)
CAS Registry Numbers: 1313-99-1 (Nickel oxide (NiO); 1314-13-2 (Zinc oxide (ZnO); 1314-62-1 (Vanadium oxide (V2O5) Role: CAT (Catalyst use), USES (Uses) (catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping); 1309-37-1 (Iron oxide (Fe2O3); 1317-38-0 (Copper oxide (CuO); 7705-08-0 (Iron chloride (FeCl3) Role: CAT (Catalyst use), MOA (Modifier or additive use), USES (Uses) (catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping); 1305-78-8 (Calcium oxide (CaO) Role: CAT (Catalyst use), NUU (Other use, unclassified), USES (Uses) (catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping); 56-23-5 (Methane, tetrachloro-); 67-66-3 (Methane, trichloro-); 74-87-3 (Methane, chloro-); 75-09-2 (Methane, dichloro-); 79-34-5 (Ethane, 1,1,2,2-tetrachloro-); 127-18-4 (Ethene, tetrachloro-); 463-58-1 (Carbon oxide sulfide (COS); 732-11-6 (Phosmet); 756-79-6; 7446-09-5 (Sulfur dioxide); 7723-14-0D (Phosphorus) Role: PEP (Physical, engineering or chemical process), PYP (Physical process), RCT (Reactant), REM (Removal or disposal), PROC (Process), RACT (Reactant or reagent) (catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping); 75-15-0 (Carbon disulfide) Role: PEP (Physical, engineering or chemical process), PYP (Physical process), RCT (Reactant), REM (Removal or disposal), PROC (Process), RACT (Reactant or reagent) (destructive adsorption of; catalyzed destructive adsorption of toxic compds. with micro- and nanocryst. calcium oxide with and without transition metal oxide doping)
Citations: 1a) Iarc; Overall Evaluations of Carcinogenicity 1987, Suppl 7
Citations: 1b) Who; Guidelines for Drinking Water Quality 1, 2nd ed 1993
Citations: 1c) Bouwer, E; Environ Sci Technol 1981, 15, 595
Citations: 1d) Bouwer, E; Appl Environ Microbiol 1983, 45, 1295
Citations: 1e) U S Environmental Protection Agency; An Exposure and Risk Assessment for Trichloroethylene 1981, EPA-440/4-85-019
Citations: 1f) U S Environmental Protection Agency; Kirk-Othmer Encyclopedia of Chemical Technology, 4th ed 1994
Citations: 2) Koper, O; Chem Mater 1997, 9, 2468
Citations: 3) Klabunde, K; J Phys Chem 1996, 100, 12142
Citations: 4) Decker, S; Chem Mater 1998, 10, 674
Citations: 5) Jiang, Y; J Catal 1998, 180, 24
Citations: 6) Decker, S; J Am Chem Soc 1996, 118, 12465
Citations: 9) Li, Y; Langmuir 1991, 7, 1388
Citations: 10) Yang, Y; Chem Rev 1992, 92, 1729
Citations: 11a) Beier, R; Ind Eng Chem Process Des Dev 1967, 6(1), 380

Citations: 11b) Graven, W; Ind Eng Chem Process Des Dev 1966, 5, 183
Citations: 11c) Graven, W; Ind Eng Chem Process Des Dev 1966, 5, 34
Citations: 11d) Tzou, T; Annual Report to the Army CRDEC 1988
Citations: 12) Lin, S; Langmuir 1985, 1, 600
Citations: 13) Li, Y; Langmuir 1991, 7, 1394
Citations: 14) Duke, C; Reconstructions of Solid Surfaces 1990 In the temp. range of 300-500 Deg, solid nanocryst. oxides react nearly stoichiometrically with numerous halocarbons, sulfur compds., and organophosphorus compds. In some cases, the reaction efficiencies can be improved by the presence of a small amt. of transition metal oxide as catalyst; for example, Fe2O3 on CaO and mobile intermediate species such as FeCl3 or Fe(SO3)x are important in the catalytic process. A series of environmentally problematic compds. are discussed herein, including CCl4, COS, CS2, C2Cl4, CHCl3, CH2Cl2, MeCl, and (MeO)2P(O)Me. Nanocrystals of CaO coated with a thin layer of Fe2O3 (or other transition metals) ==[Fe2O3]CaO, or intimately mixed ==Fe2O3/CaO were compared with pure CaO. It was found that (a) the presence of a small amt. of surface [Fe2O3] or other transition-metal oxide can have a marked effect on the destructive adsorption activity; (b) for some compds., such as CCl4, C2Cl4, SO2, and others, the nanocryst. CaO can react in stoichiometric amts., esp. if a transition metal oxide catalyst is present; (c) although the reaction with di-Me methylphosphonate is surface-limited, the nanocryst. calcium oxide performed well and at high capacity; (d) nanocryst. calcium oxide exhibits near stoichiometric activity with several interesting sulfur-contg. compds., such as COS and CS2; and (e) unfortunately, most fluorocarbons were not destructively adsorbed at 500 Deg under the conditions employed; however, some of these can be effectively mineralized over the calcium oxide at higher temps. These compds. include C2F6, C3F6, C2ClF3, and CHF3, and upon reaction, the surface areas decreased considerably, from about 100 to about 10 m2/g. The results of these expts. further demonstrate that, with the proper choice of catalytic material, some solid-gas reactions can be engineered to be rapid and essentially stoichiometric. [on SciFinder (R)] 0013-936X toxic/ waste/ destruction/ catalyzed/ destructive/ adsorption/ nanocryst/ oxide;/ calcium/ oxide/ nanocryst/ adsorbent/ catalyzed/ destruction/ toxic/ compd;/ ferric/ oxide/ calcium/ oxide/ nanocryst/ adsorptive/ catalyst/ destruction/ waste;/ waste/ gas/ toxic/ destruction/ catalyzed/ destructive/ adsorption/ nanocryst/ oxide;/ solid/ waste/ toxic/ destruction/ catalyzed/ destructive/ adsorption/ nanocryst/ oxide

313. Dedek, W. (1980). Solubility Factors Affecting Pesticide Penetration Through Skin and Protective Clothing. *In: W.F.Tordoir and E.A.H.Van Heemmstra (Eds.), Field Worker Exposure During Pesticide Application, Elsevier Sci., NY* 47-50.
Chem Codes: Chemical of Concern: PSM,DMT,MP,DDVP Rejection Code: REFS CHECKED/REVIEW.

314. Demeterio, J. L. (Quality of Percolate Below the Root Zone of Selected Vegetables Grown in Northern Guam. *Natl. Tech. Inform. Serv. Pb-280,660: 28p 1978 (15 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: PESTAB. Northern Guam farms were surveyed in 1976 and 1977 for pesticide and fertilizer usage. The major pesticides used in 1976 and 1977 were Sevin (carbaryl), diazinon, malathion, Dibrom (naled). Kelthane (dicofol) was widely used in 1976 but not in 1977. Animal manure, 15-15-15 and 16-16-16 were the most widely used fertilizers in 1976 and 1977. A notable increase in the use of ammonium sulfate occurred in 1977. The chance of groundwater contamination from agricultural chemicals is minimal since a very small percentage of the land area is currently being utilized for full-time farming. Bench scale lysimeter studies were conducted to determine the concentrations of nitrogen and phosphorus in percolate water after passing the root zone of selected fertilized vegetables. Tomatoes, Chinese cabbage, head cabbage, eggplant, and bell pepper were grown using ammonium sulfate, chicken manure, potassium nitrate, and 15-15-15 as fertilizers. Potassium nitrate is the best nitrogen source but is cost prohibitive and 15-15-15 percolates excessive amounts of nitrate and ammonia nitrogen. Actively growing vegetables used the nitrogen in the ammonium sulfate and chicken manure at comparable rates. (Author abstract by permission)

315. Deng, Yi-Mo, Liu, Chun-Qiang, and W. Dunn, Noel (1999). Genetic organization and functional analysis of a novel phage abortive infection system, AbiL, from Lactococcus lactis. *Journal of Biotechnology* 67: 135-149.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

A plasmid-encoded phage abortive infection mechanism (AbiL) was identified from Lactococcus lactis biovar. diacetylactis LD10-1. AbiL conferred complete resistance to the small isometric-headed phage [phi]712 (936 species) and partial resistance to the prolate-headed phage [phi]c2 (c2 species) when introduced into L. lactis LM0230. However, AbiL was not effective against the small isometric-headed phage ul36 (P335 species). The AbiL determinant was sequenced and it consists of two open reading frames, abiLi and abiLii. Their encoded proteins did not share significant homology with any known proteins in the protein databases. Transcriptional analysis indicated that abiLi and abiLii are organized as a single operon. Deletion within abiLii abolished the phage resistance. The levels of four [phi]c2-specific transcripts, three within the early transcribed region and one within the late transcribed region, were examined by RT-PCR, no effect of AbiL on synthesis of these transcripts was detected, suggesting that AbiL may act at a point after the transcription of [phi]c2 in L. lactis. Plasmid pND861/ AbiL/ Phage resistance mechanism http://www.sciencedirect.com/science/article/B6T3C-3VJS273-4/2/1273d0a1170a3f52e38f672e246b121d

316. Denk, T. and Tekleva, M. V. (2006). Comparative Pollen Morphology and Ultrastructure of Platanus: Implications for Phylogeny and Evaluation of the Fossil Record. *Grana, 45 (3) pp. 195-221, 2006*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0017-3134
Descriptors: Eudicots
Descriptors: Evolution
Descriptors: Intraspecific variability
Descriptors: Subgenus Castaneophyllum
Descriptors: Subgenus Platanus
Abstract: Pollen of Platanus was studied using light (LM) and electron microscopy (SEM and TEM). Overall, pollen is uniform in modern Platanus (small, tricolpate, prolate to spheroidal, reticulate, semitectate). A number of characters, however, display remarkable variability within a taxon and even a single anther (size; foveo-reticulate, fine to coarse reticulate ornamentation). Platanus kerrii (subgenus Castaneophyllum) differs from the remaining species by its high and "folded" reticulum and possibly the smooth colpus membrane. Moreover, to our knowledge, pollen of the P. kerrii - type is not known from the fossil record. The exine in modern and fossil Platanaceae shows great structural similarity, but the thickness of the foot layer within the ectexine is less variable and normally smaller in modern taxa. Furthermore, in Early Cretaceous to Early Cainozoic Platanaceae a number of distinct pollen types occurred that are not known within the modern Platanus. Considering pollen of Platanaceae from the Early Cretaceous to today, a dynamic picture of the evolution of the family emerges. In the first phase (Early Cretaceous) pollen of extinct genera such as Aquia differed considerably from modern Platanus and shows strong similarity to basal eudicot taxa such as Ranunculales (e.g. Lardizabalaceae). The Late Cretaceous Platananthus hueberi displays a distinct coarse reticulum that is unknown from modern Platanus but similar to some taxa of Hamamelidaceae (e.g. Exbucklandia). After the first phase of eudicot radiation that appears to have been characterized by strongly reticulate evolution, platanaceous diversity decreased in the course of the Cainozoic. Despite this, the pollen type of the modern subgenus Castaneophyllum (P. kerrii type) seems to be an innovation that originated after the initial radiation of the family. (copyright) 2006 Taylor & Francis.
67 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article

Country of Publication: Norway
Classification: 92.14.1.7 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Evolution
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Subfile: Plant Science

317. Dennis, Stephan (19810421). Fenvalerate-phosmet insecticidal composition. 4 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1981:456380
Chemical Abstracts Number: CAN 95:56380
Section Code: 5-3
Section Title: Agrochemicals
Coden: USXXAM
Index Terms: Leptinotarsa decemlineata (control of, with fenvalerate-phosmet insecticidal mixt.)
CAS Registry Numbers: 78062-23-4 Role: AGR (Agricultural use), BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (synergistic insecticide, for colorado potato beetle control)
Patent Application Country: Application: US A fenvalerate-phosmet mixt. (I + II) [78062-23-4], in a ratio of 20:1-100:1 (I + II), was found to be a synergistic insecticide particularly effective against the Colorado potato beetle (Leptinotarsa decemlineata). Thus, the mixt. contg. 0.5 lb/ac I and 0.025 lb/ac II gave 99.5% control of the beetle. [on SciFinder (R)] A01N037-34; A01N057-00; A01N057-26. fenvalerate/ phosmet/ insecticide/ potato/ beetle;/ Leptinotarsa/ insecticide/ fenvalerate/ phosmet

318. Derouiche, A. and Driss, M. R (2006). Stability of carbamate and organophosphorus pesticides under different storage conditions. *Journal de la Societe Chimique de Tunisie* 8: 127-135.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:344985
Chemical Abstracts Number: CAN 147:65993
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Temperature effects (on stability of carbamate and organophosphorus pesticides under different storage conditions); Insecticides (stability of carbamate and organophosphorus pesticides under different storage conditions)
CAS Registry Numbers: 56-38-2 (Parathion-ethyl); 63-25-2 ((Carbaryl); 122-14-5 (Fenitrothion); 298-00-0 (Parathionmethyl); 311-45-5 (Paraoxon); 732-11-6 (Phosmet); 1563-66-2 (Carbofuran); 2642-71-9 ((Azinphos-ethyl) Role: BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study) (stability of carbamate and organophosphorus pesticides under different storage conditions); 7487-94-7 (Mercuric chloride); 7772-98-7 (Sodium thiosulfate) Role: MOA (Modifier or additive use), USES (Uses) (stability of carbamate and organophosphorus pesticides under different storage conditions in presence of)
Citations: 1) Sliwka-Kaszynska, M; Crit Rev Environ Sci Technol 2003, 33, 31
Citations: 2) Liska, I; Intern J Environ Anal Chem 1992, 47, 267
Citations: 3) Jeannot, R; Intern J Environ Anal Chem 1994, 57, 231
Citations: 4) Munch, D; Environ Sci Technol 1992, 26, 921
Citations: 5) Barcelo, D; Intern J Environ Anal Chem 1994, 57, 237

Citations: 6) Ferrer, I; J Chromatogr A 1996, 737, 93
Citations: 7) Driss, M; Intern J Environ Anal Chem 1996, 65, 1
Citations: 8) Di Corcia, A; Environ Sci Technol 1992, 26, 66
Citations: 9) Lacorte, S; Environ Sci Technol 1995, 29, 2834
Citations: 10) Liska, I; J Chromatogr A 1998, 795, 61
Citations: 11) De la Colina, D; Analyst 1997, 122, 7
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Citations: 13) Senseman, S; Environ Sci Technol 1993, 27, 516
Citations: 14) Sabik, H; J Chromatogr A 2000, 879, 73
Citations: 15) Green, D; Anal Chem 1987, 59, 699
Citations: 16) Anon; EPA Method 525.2., Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column Gas Chromatography/Mass Spectrometry 1994, EPA-600/R-95/131
Citations: 17) Bussiere, J; Environ Toxicol Chem 1989, 8, 1125
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Citations: 20) Smolen, J; Environ Sci Technol 1997, 31, 1664
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Citations: 24) Zeinali, M; Environ Sci Technol 1998, 32, 2338
Citations: 25) Richardson, S; Environ Sci Technol 1994, 28, 592
Citations: 26) Pehkonen, S; Crit Rev Environ Sci Technol 2002, 32, 17 The stability of six of organophosphorus (azinphos-Et, fenitrothion, parathion-Et, parathionmethyl, paraoxon and phosmet) and two carbamates (carbaryl and carbofuran) pesticides were studied under different storage conditions after preconcn. in disposable solid-phase extn. (SPE) cartridges contg. C18 sorbent materials and their anal. by liq. chromatog. with UV detection. The effects of temp. and matrix type on the recovery of these contaminants in cartridges for a period of 1 mo were studied. Three storage temps., 20, 4 and -20 DegC and three storage periods, 3, 7 and 30 days, were considered. Complete recovery for all the compds. was obsd. in C18 cartridge kept at -20 DegC for one month. The type of matrix water selected appears to have a significant influence on the stability of the target pesticides stored on cartridges, compared to the Milli-Q water. The stability of the pesticides was also examd. in bottled surface water, in order to compare it to their stability in SPE cartridges and to evaluate the pretreatment of the aq. matrix with two stabilizers. The addn. of $Na_2S_2O_3$ to the water sample, compared to the $HgCl_2$ is effective to increase the stability of organophosphorus pesticides. [on SciFinder (R)] 0253-1208 carbamate/ organophosphorus/ insecticide/ stability/ storage

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Chem Codes: Chemical of Concern: PSM Rejection Code: MIXTURE.

320. Devillers, J (2001). A general QSAR model for predicting the acute toxicity of pesticides to Lepomis macrochirus. *SAR and QSAR in Environmental Research* 11: 397-417.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:327496
Chemical Abstracts Number: CAN 135:118118
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Lepomis macrochirus; Pesticides   (QSAR model for predicting acute toxicity of

pesticides to Lepomis macrochirus); Simulation and Modeling (neural network; QSAR model for predicting acute toxicity of pesticides to Lepomis macrochirus); Structure-activity relationship (toxic; QSAR model for predicting acute toxicity of pesticides to Lepomis macrochirus)
CAS Registry Numbers: 50-29-3 (DDT); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 57-74-9; 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8 (DEF); 87-86-5 (Pentachlorophenol); 94-75-7 (2,4-D); 94-82-6 (2,4-DB); 101-05-3 (Anilazine); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-42-9 (Propham); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 327-98-0 (Trichloronate); 330-54-1 (Diuron); 485-31-4 (Binapacryl); 534-52-1 (DNOC); 563-12-2 (Ethion); 584-79-2; 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 786-19-6 (Carbophenothion); 834-12-8 (Ametryn); 841-06-5 (Methoprotryne); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1024-57-3 (Heptachlor epoxide); 1071-83-6 (Glyphosate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1918-02-1 (Picloram); 1929-77-7 (Vernolate); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2163-79-3; 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2921-88-2 (Chlorpyrifos); 6923-22-4 (Monocrotophos); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 23135-22-0 (Oxamyl); 28249-77-6 (Benthiocarb); 33245-39-5 (Fluchloralin); 51338-27-3 (Diclofop methyl); 52756-25-9 (Flamprop-methyl) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (QSAR model for predicting acute toxicity of pesticides to Lepomis macrochirus)
Citations: 1) Cros, A; Action de l'Alcool Amylique sur l'Organisme 1863, 37
Citations: 2) Overton, E; Studien uber die Narkose 1901
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Citations: 5) Free, S; J Med Chem 1964, 1, 395
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Citations: 7) Lek-Ang, S; Ecol Model 1999, 120, 247
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Citations: 13) Devillers, J; SAR QSAR Environ Res 1999, 10, 61
Citations: 14) Devillers, J; Toxicol Methods 2000, 10, 69
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Citations: 17) Shiu, W; Rev Environ Contam Toxicol 1990, 116, 35
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Citations: 20) Moreau, G; Nouv J Chim 1980, 4, 359
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Citations: 25) Anon; AUTOCOR Version 2.40
Citations: 26) Cambon, B; Quant Struct Act Relat 1993, 12, 49
Citations: 27) Anon; STATQSAR Package
Citations: 28) Anon; Ecological Modelling 1999, 120, 65 A Quant. Structure-Activity Relationship (QSAR) model was derived for estg. the acute toxicity of pesticides against Lepomis macrochirus under varying exptl. conditions. Chems. were described by means of autocorrelation

descriptors encoding lipophilicity (H0 to H5) and the H-bonding acceptor ability (HBA0) and H-bonding donor ability (HBD0) of the pesticides. A three-layer feedforward neural network trained by the back-propagation algorithm was used as statistical engine for deriving a powerful QSAR model accounting for the wt. of the fish, time of exposure, temp., pH, and water hardness. [on SciFinder (R)] 1062-936X pesticide/ toxicity/ Lepomis/ QSAR

321. Devillers, J (2004). Prediction of mammalian toxicity of organophosphorus pesticides from QSTR modeling. *SAR and QSAR in Environmental Research* 15: 501-510.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:1012723
Chemical Abstracts Number: CAN 142:70135
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus; predictive QSAR models of organophosphorus pesticide toxicity to mammalian); Mammalia; QSAR; Rattus; Simulation and Modeling; Toxicity (predictive QSAR models of organophosphorus pesticide toxicity to mammalian); Structure-activity relationship (toxic; predictive QSAR models of organophosphorus pesticide toxicity to mammalian)
CAS Registry Numbers: 52-68-6; 52-85-7; 55-38-9 (Fenthion); 56-38-2; 56-72-4; 60-51-5; 62-73-7; 78-34-2; 78-48-8; 78-57-9; 86-50-0; 97-17-6; 107-49-3; 115-90-2; 121-75-5; 122-14-5; 141-66-2; 152-16-9; 297-97-2; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 299-86-5; 300-76-5; 301-12-2; 327-98-0; 333-41-5; 470-90-6; 500-28-7; 563-12-2; 732-11-6; 741-58-2; 786-19-6; 950-37-8; 953-17-3; 2104-64-5; 2104-96-3; 2275-23-2; 2463-84-5; 2782-70-9; 2921-88-2; 3383-96-8; 3811-49-2; 6923-22-4; 7700-17-6; 7786-34-7; 10265-92-6; 10311-84-9; 13171-21-6; 13593-03-8; 14816-18-3; 21609-90-5; 22248-79-9; 23560-59-0; 25311-71-1; 29232-93-7; 30560-19-1; 31218-83-4; 35400-43-2 Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (predictive QSAR models of organophosphorus pesticide toxicity to mammalian)
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Citations: 24) Acta; Index Phytosanitaire, 40th Ed 2004, 804
Citations: 25) Moreau, G; Nouv J Chim 1980, 4, 359
Citations: 26) Moreau, G; Nouv J Chim 1980, 4, 757
Citations: 27) Devillers, J; Topological Indices and Related Descriptors in QSAR and QSPR 1999, 595
Citations: 28) Rekker, R; Calculation of Drug Lipophilicity The Hydrophobic Fragmental Constant Approach 1992, 112
Citations: 29) Hansch, C; Substituent Constants for Correlation Analysis in Chemistry and Biology 1979
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Citations: 31) Geladi, P; Practical Applications of Quantitative Structure-Activity Relationships (QSAR) in Environmental Chemistry and Toxicology 1990, 171
Citations: 32) Statsoft; STATISTICA, Version 6
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Citations: 37) Kato, R; Drug Metab Rev 1974, 3, 1
Citations: 38) Hansen, L; IEEE Trans Pattern Anal Machine Intell 1990, 12, 993
Citations: 39) Devillers, J; SAR QSAR Environ Res 1997, 7, 151
Citations: 40) Lipnick, R; QSAR in Environmental Toxicology-IV 1991, 131 Quant. structure-toxicity relationship (QSTR) models were derived for estg. the acute oral toxicity of organophosphorus pesticides to male and female rats. The 51 chems. of the training set and the nine compds. of the external testing set were described by means of autocorrelation vectors encoding lipophilicity, molar refractivity, H-bonding acceptor ability (HBA) and H-bonding donor ability (HBD) of the mols. A feature selection was employed for selecting the most relevant autocorrelation descriptors. A PLS regression anal. and an artificial neural network (ANN) were used for deriving models accounting for the sex of the organisms in the estn. of the toxicity of pesticides. The best results were obtained with an 8/4/1 ANN model trained with the back-propagation and conjugate gradient descent algorithms. The root mean square residual (RMSR) values for the training set and the external testing set equaled 0.29 and 0.26, resp. [on SciFinder (R)] 1062-936X organophosphorus/ pesticide/ toxicity/ mammalian/ QSAR/ modeling

322. Devillers, J., Decourtye, A., Budzinski, H., Pham-Delegue, M. H., Cluzeau, S., and Maurin, G (2003). Comparative toxicity and hazards of pesticides to Apis and non-Apis bees. A chemometrical study. *SAR and QSAR in Environmental Research* 14: 389-403.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:908997
Chemical Abstracts Number: CAN 140:282562
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Bacillus thuringiensis (Certan; pesticides structure related to toxicity to Apis and non-Apis bees); Pyrethrins Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (Diatect, Pyrellin; pesticides structure related to toxicity to Apis and non-Apis bees); Apis mellifera; Bacillus thuringiensis israelensis; Bacillus thuringiensis kurstaki; Beauveria bassiana; Chemometrics; Megachile rotundata; Nomia melanderi; Pesticides; Toxicity (pesticides structure related to toxicity to Apis and non-Apis bees); Structure-activity relationship (toxic; pesticides structure related to toxicity to Apis and non-Apis bees)
CAS Registry Numbers: 63-25-2 (Savite) Role: ADV (Adverse effect, including toxicity), PRP

(Properties), BIOL (Biological study) (Adios, Sevin; pesticides structure related to toxicity to Apis and non-Apis bees); 121-75-5 (Cythion) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (Malathion ULV; pesticides structure related to toxicity to Apis and non-Apis bees); 16752-77-5 (Lannate) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (Nudrin; pesticides structure related to toxicity to Apis and non-Apis bees); 50-29-3 (DDT); 52-68-6 (Dylox); 55-38-9 (Baytex); 56-38-2 (Parathion); 58-89-9 (Benzene hexachloride); 60-51-5 (Cygon); 60-57-1 (Dieldrin); 62-73-7 (Vapona); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 86-50-0 (Azinphos-methyl); 88-85-7 (Dinoseb); 94-82-6 (2,4-DB); 107-49-3 (TEPP); 114-26-1 (Baygon); 115-29-7 (Thiodan); 115-32-2 (Dicofol); 116-06-3 (Temik); 116-29-0 (Tedion); 122-10-1 (Bomyl); 141-66-2 (Bidrin); 298-00-0 (Methyl parathion); 298-02-2 (Thimet G); 298-04-4 (Disulfoton); 300-76-5 (Dibrom); 301-12-2 (Metasystox-R); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 534-52-1 (DNOC); 563-12-2 (Ethion); 732-11-6 (Imidan); 786-19-6 (Trithion); 950-37-8 (Supracide); 1344-81-6 (Lime sulfur); 1563-66-2 (Furadan F); 1582-09-8 (Treflan); 2032-59-9 (Matacil); 2032-65-7 (Mesurol); 2104-64-5 (EPN); 2310-17-0 (Zolone); 2312-35-8 (Comite); 2439-01-2 (Morestan); 2597-03-7 (Cidial); 2758-42-1 (Butoxone); 2921-88-2 (Stipend); 3687-31-8 (Lead arsenate); 5989-27-5 (D-Limonene); 6923-22-4 (Azodrin); 7704-34-9 (Sulfur); 7778-44-1 (Calcium arsenate); 7783-18-8 (Ammonium thiosulfate); 7786-34-7 (Phosdrin); 8001-35-2 (Toxaphene); 8065-48-3 (Systox); 10265-92-6 (Methamidophos); 11141-17-6 (Align); 12789-03-6 (Chlordane); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 22248-79-9 (Rabon); 22781-23-3 (Ficam); 23103-98-2 (Pirimor); 23135-22-0 (Vydate); 23422-53-9 (Carzol); 23526-02-5 (DiBeta); 25311-71-1 (Amaze); 30560-19-1 (Orthene); 34256-82-1 (Trophy); 39515-41-8 (Danitol); 51487-69-5 (Lance); 51630-58-1 (Pydrin); 52315-07-8 (Ammo); 52645-53-1 (Ambush); 52918-63-5 (Decis); 59669-26-0 (Larvin); 63837-33-2 (Diofenolan); 66215-27-8 (Trigard); 66230-04-4 (Asana); 66841-25-6 (Scout); 69409-94-5 (Fluvalinate); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Savey); 79147-51-6 (Pyrenone); 81510-83-0 (Stalker); 82657-04-3 (Bifenthrin); 91465-08-6 (Karate); 95737-68-1 (Knack); 96489-71-3 (Pyridaben); 99827-19-7 (Alert); 100920-69-2 (Javelin); 102851-06-9 (Spur); 113036-88-7 (Andalin); 120068-37-3 (Regent); 123312-89-0 (Fulfill); 138261-41-3 (Admire); 170906-04-4 (Neemix); 675177-36-3; 675177-37-4 Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (pesticides structure related to toxicity to Apis and non-Apis bees)

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Citations: 17) Devillers, J; Topological Indices and Related Descriptors in QSAR and QSPR 1999, 595
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Citations: 19) Devillers, J; Toxicol Methods 2000, 10, 69

Citations: 20) Devillers, J; SAR QSAR Environ Res 2000, 11, 25
Citations: 21) Devillers, J; SAR QSAR Environ Res 2001, 11, 397 The adverse effects of 158 pesticides to the Honey bee (Apis mellifera), the alfalfa leafcutting bee (Megachile rotundata) and the alkali bee (Nomia melanderi) were compared by means of various linear and non-linear multivariate analyses. A comparison exercise including the bumble bee (Bombus spp.) was also performed from a more restricted set of 32 pesticides. While no difference of sensitivity was found between A. mellifera and Bombus spp., M. rotundata appeared the most susceptible to pesticides followed by N. melanderi. [on SciFinder (R)] 1062-936X pesticide/ structure/ toxicity/ bee/ Apis/ Megachile/ Nomia

323. Devillers, J. and Flatin, J (2000). A general QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss. *SAR and QSAR in Environmental Research* 11: 25-43.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:235126
Chemical Abstracts Number: CAN 133:13493
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 5, 61
Document Type: Journal
Language: written in English.
Index Terms: Hydrogen bond; Lipophilicity; Oncorhynchus mykiss; Pesticides; QSAR; Temperature effects; Toxicity; Water pollution; pH (QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss); Toxicity (acute; QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss); Toxicity (aquatic; QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss); QSAR (model; QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss); Simulation and Modeling (neural network; QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss); Pesticides (organochlorine; QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss); Insecticides (organophosphorus; QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8 (DEF); 87-86-5 (Pentachlorophenol); 101-05-3 (Anilazine); 115-29-7 (Endosulfan); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-42-9 (Propham); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 327-98-0 (Trichloronate); 330-54-1 (Diuron); 510-15-6 (Chlorobenzilate); 534-52-1 (DNOC); 563-12-2 (Ethion); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 834-12-8 (Ametryn); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1024-57-3 (Heptachlor epoxide); 1071-83-6 (Glyphosate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1918-02-1 (Picloram); 1929-77-7 (Vernolate); 1982-47-4 (Chloroxuron); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2303-17-5 (Triallate); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos methyl); 5598-52-7 (Fospirate); 6164-98-3 (Chlordimeform); 10605-21-7 (MBC); 12789-03-6 (Chlordane); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18181-70-9 (Jodfenphos); 23135-22-0 (Oxamyl); 28249-77-6 (Benthiocarb); 29091-05-2 (Dinitramine); 33245-39-5 (Fluchloralin); 51338-27-3 (Diclofop methyl); 52756-25-9 (Flamprop methyl); 59756-60-4 (Fluridone) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss); 12408-02-5 (Hydrogen ion) Role: BAC (Biological activity or effector, except adverse), BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss); 471-34-1 (Calcium carbonate) Role: BAC (Biological

activity or effector, except adverse), BSU (Biological study, unclassified), GOC (Geological or astronomical occurrence), BIOL (Biological study), OCCU (Occurrence) (in water, hardness; QSAR model for predicting the acute toxicity of pesticides to Oncorhynchus mykiss)
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Citations: 2) Hansch, C; J Am Chem Soc 1964, 86, 1616
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Citations: 10) de Saint Laumer, J; Applied Multivariate Analysis in SAR and Environmental Studies 1991, 479
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Citations: 15) Zakarya, D; SAR QSAR Environ Res 1997, 6, 183
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Citations: 21) Montgomery, J; Agrochemicals Desk Reference. Environmental Data 1993, 625
Citations: 22) Tomlin, C; The Pesticide Manual. Incorporating the Agrochemicals Handbook 1994, 1341
Citations: 23) Moreau, G; Nouv J Chim 1980, 4, 359
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Citations: 25) Broto, P; Practical Applications of Quantitative Structure-Activity Relationships (QSAR) in Environmental Chemistry and Toxicology 1990, 105
Citations: 26) Devillers, J; Topological Indices and Related Descriptors in QSAR and QSPR 1999, 595
Citations: 27) Rekker, R; Calculation of Drug Lipophilicity. The Hydrophobic Fragmental Constant Approach 1992, 112
Citations: 28) Hansch, C; Substituent Constants for Correlation Analysis in Chemistry and Biology 1979, 339
Citations: 29) CTIS; AUTOCOR (Version 2.40)
Citations: 30) Rumelhart, D; Nature 1986, 323, 533
Citations: 31) Devillers, J; Neural Networks in QSAR and Drug Design 1996, 1
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Citations: 47) Tourenq, C; Ecol Model 1999, 120, 349 A Quant. Structure-Activity Relationship (QSAR) model was derived for estg. the acute toxicity of pesticides against Oncorhynchus mykiss under varying exptl. conditions. Chems. were described by means of autocorrelation descriptors encoding lipophilicity (H0 to H5) and the H-bonding acceptor ability (HBA0) and H-bonding donor ability (HBD0) of the pesticides. A three-layer feed forward neural network trained by the back-propagation algorithm was used as statistical engine for deriving a powerful QSAR model accounting for the wt. of the fish, time of exposure, temp., pH, and hardness. [on SciFinder (R)] 1062-936X aquatic/ toxicity/ pesticide/ Oncorhynchus/ QSAR/ model/ prediction;/ neural/ network/ prediction/ pesticide/ toxicity/ QSAR/ Oncorhynchus

324. Devillers, J., Pham-Delegue, M. H., Decourtye, A., Budzinski, H., Cluzeau, S., and Maurin, G (2002). Structure-toxicity modeling of pesticides to honey bees. *SAR and QSAR in Environmental Research* 13: 641-648.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:858869
Chemical Abstracts Number: CAN 138:182322
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Optical refraction (molar refraction; structure-toxicity modeling of pesticides to honey bees); Simulation and Modeling (neural network; structure-toxicity modeling of pesticides to honey bees); Apis mellifera; Hydrogen bond; Lipophilicity; Pesticides (structure-toxicity modeling of pesticides to honey bees); Structure-activity relationship (toxic; structure-toxicity modeling of pesticides to honey bees)
CAS Registry Numbers: 50-29-3 (DDT); 52-85-7 (Famphur); 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 76-44-8 (Heptachlor); 86-50-0 (Azinphos-methyl); 99-30-9 (Dicloran); 107-49-3 (TEPP); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 309-00-2 (Aldrin); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronate); 333-41-5 (Diazinon); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 1918-16-7 (Propachlor); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2597-03-7 (Phenthoate); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3383-96-8 (Temephos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10453-86-8 (Resmethrin); 12789-03-6 (Chlordane); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 15299-99-7 (Napropamide); 16752-77-5 (Methomyl); 17606-31-4 (Bensultap); 22224-92-6 (Fenamiphos); 22248-79-9 (Stirofos); 22431-62-5 (Bioethanomethrin); 22781-23-3 (Bendiocarb); 23135-22-0 (Oxamyl); 24151-93-7 (Piperophos); 25311-71-1 (Isofenphos); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 34622-58-7 (Orbencarb); 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35575-96-3 (Azamethiphos); 38260-54-7 (Etrimfos); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55285-14-8 (Carbosulfan); 59669-26-0 (Thiodicarb); 62865-36-5 (Diclomezine); 66841-25-6 (Tralomethrin); 70124-77-5 (Payoff); 76578-12-6 (Quizalofop); 80060-09-9 (Diafenthiuron); 83130-01-2 (Alanycarb); 86763-47-5 (Propisochlor); 87130-20-9 (Diethofencarb); 87820-88-0

(Tralkoxydim); 88283-41-4 (Pyrifenox); 96489-71-3 (Pyridaben); 97886-45-8 (Dithiopyr); 105024-66-6 (Silafluofen); 120928-09-8 (Fenazaquin); 122453-73-0 (AC 303630); 125116-23-6 (Metconazole) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (structure-toxicity modeling of pesticides to honey bees)
Citations: 1) Devillers, J; Honey Bees: Estimating the Environmental Impact of Chemicals 2002, 1
Citations: 2) Devillers, J; Honey Bees: Estimating the Environmental Impact of Chemicals 2002, 56
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Citations: 20) Hair, J; Mutivariate Data Analysis with Readings 3rd Ed 1992, 544
Citations: 21) Devillers, J; Genetic Algorithms in Molecular Modeling 1996, 327
Citations: 22) Geladi, P; Practical Applications of Quantitative Structure-Activity Relationships (QSAR) in Environmental Chemistry and Toxicology 1990, 171 A quant. structure-activity relationship (QSAR) model was derived for estg. the acute toxicity of pesticides on the honey bee. Chems. were described by means of autocorrelation descriptors encoding lipophilicity, molar refractivity and the H-bonding acceptor ability of the pesticides. A three-layer feedforward neural network trained by the back-propagation algorithm was used as statistical engine for deriving a powerful QSAR model. The root mean square residual values for the training and testing sets were 0.430 and 0.386, resp. The practical interest of this original model was discussed. [on SciFinder (R)] 1062-936X structure/ activity/ relationship/ toxicity/ pesticide/ honey/ bee

325. Devillers, James (2003). A QSAR model for predicting the acute toxicity of pesticides to Gammarids. *Data Handling in Science and Technology* 23: 323-339.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: QSAR.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:86729
Chemical Abstracts Number: CAN 141:118491
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Gammarus; Gammarus fasciatus; Pesticides; QSAR; Toxicity (QSAR model for predicting the acute toxicity of pesticides to Gammarids); Partial least squares (regression; QSAR model for predicting the acute toxicity of pesticides to Gammarids)

CAS Registry Numbers: 50-29-3 (DDT); 55-38-9 (Fenthion); 56-38-2; 58-89-9 (Lindane); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5; 72-54-8 (DDD); 76-44-8; 78-34-2 (Dioxathion); 78-48-8 (DEF); 86-50-0 (Azinphosmethyl); 97-17-6 (Dichlofenthion); 101-05-3 (Anilazine); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 121-75-5; 122-14-5 (Fenitrothion); 122-42-9 (Propham); 140-57-8 (Aramite); 141-66-2 (Dicrotophos); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-86-5 (Crufomate); 300-76-5 (Naled); 315-18-4 (Mexacarbate); 330-54-1 (Diuron); 333-41-5; 470-90-6; 534-52-1 (DNOC); 563-12-2 (Ethion); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 953-17-3 (Methyl trithion); 957-51-7 (Diphenamide); 1114-71-2 (Pebulate); 1918-02-1 (Picloram); 1929-77-7 (Vernolate); 2008-41-5 (Butylate); 2212-67-1 (Molinate); 6923-22-4 (Monocrotophos); 8065-36-9 (Bufencarb); 12789-03-6 (Chlordane); 13171-21-6 (Phosphamidon); 18530-56-8 (Norea); 21725-46-2 (Cyanazine) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study)   (QSAR model for predicting the acute toxicity of pesticides to Gammarids)

Citations: Aoyama, T; J Med Chem 1990, 33, 905
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Citations: Broto, P; Practical Applications of Quantitative Structure-Activity Relationships (QSAR) in Environmental Chemistry and Toxicology 1990, 105
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Citations: Devillers, J; Topological Indices and Related Descriptors in QSAR and QSPR 1999, 595
Citations: Devillers, J; Toxicol Meth 2000, 10, 69
Citations: Devillers, J; SAR QSAR Environ Res 2001, 12, 515
Citations: Devillers, J; SAR QSAR Environ Res 2001, 11, 397
Citations: Devillers, J; SAR QSAR Environ Res 1995, 4, 29
Citations: Devillers, J; SAR QSAR Environ Res 2002, 13, 705
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Citations: Moreau, G; Nouv J Chim 1980, 4, 359
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Citations: Wasserman, P; Advanced Methods in Neural Computing 1993, 255

Citations: Zakarya, D; SAR QSAR Environ Res 1997, 6, 183 The ability of partial least square (PLS) regression anal. to derive a quant.-structure activity relationship (QSAR) model integrating both types of variables was compared with artificial neural network (ANN). PLS regression anal. is a very powerful statistical technique for deriving classical QSAR models to predict the toxicity of chems. from their physicochem. properties and/or topol. indexes. These models are derived from toxicity results obtained in very specific exptl. conditions. However, in aquatic toxicol., the correct hazard assessment of xenobiotics requires to simulate the ecotoxicol. behavior of chems. under various conditions of temp., pH, hardness, and so on. The study shows that these exptl. parameters cannot be integrated as variables in PLS models to increase their flexibility. Conversely, the ANNs do not have this limitation and their introduction allows to derive very flexible environmental QSAR models. [on SciFinder (R)] 0922-3487 QSAR/ partial/ least/ square/ artificial/ neural/ network/ toxicity/ pesticide

326. Dewulf, W., Jancsok, P., Nicolai, B., De Roeck, G., and Briassoulis, D. (1999). Determining the Firmness of a Pear using Finite Element Modal Analysis. *Journal of Agricultural Engineering Research* 74: 217-224.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

In this paper, the variation of the dynamic characteristics of a pear (Conference type) due to changes in material characteristics is investigated using finite element simulations. An image processing techniques has been used to obtain the geometrical model of a Conference pear. The dynamic behaviour of this type of pear and the correlation of its behaviour with material characteristics has been investigated by using a numerical modal analysis. From these results, it was concluded that the Young's modulus of the spherical calyx end of the pear could be determined from the oblate-prolate modes and that the Young's modulus of the stem end of the pear could be determined from the first bending modes. The firmness of the spherical calyx end of the pear can be determined analogous to a spherical fruit. A finite element analysis using a conical model for the stem end of the pear indicated that a similar formula for the firmness of the stem end of the pear can be derived. http://www.sciencedirect.com/science/article/B6WH1-45GMGDS-F/2/7d063fa92514f334d3c4b516a3611964

327. Diaz-Diaz, Ricardo and Loague, Keith (2001). Assessing the potential for pesticide leaching for the pine forest areas of Tenerife. *Environmental Toxicology and Chemistry* 20: 1958-1967.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING, FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:629650
Chemical Abstracts Number: CAN 135:340467
Section Code: 5-6
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 19, 61
Document Type: Journal
Language: written in English.
Index Terms: Soils (Entisols; process-based simulations in assessing pesticide leaching potential for pine forest soils of Tenerife); Soils (Inceptisols; process-based simulations in assessing pesticide leaching potential for pine forest soils of Tenerife); Environmental modeling; Environmental transport; Pesticides (process-based simulations in assessing pesticide leaching potential for pine forest soils of Tenerife); Groundwater pollution (process-based simulations of pesticide leaching potential for pine forest soils of Tenerife in assessing groundwater vulnerability)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 61-82-5 (1H-1,2,4-Triazol-3-amine); 63-25-2 (Carbaryl); 74-83-9 (Methylbromide); 76-06-2 (Chloropicrin); 86-50-0 (Azinphos-methyl); 94-75-7 (2,4-D); 94-82-6 (2,4-DB); 99-30-9 (Dicloran); 116-06-3 (Aldicarb); 120-36-5 (Dichlorprop); 121-75-5 (Malathion); 122-34-9 (Simazine); 133-06-2 (Captan); 137-26-8 (Thiram); 300-76-5 (Naled); 330-54-1 (Diuron); 333-41-

5 (Diazinon); 533-74-4 (Dazomet); 732-11-6 (Phosmet); 957-51-7 (Diphenamid); 1071-83-6 (Glyphosate); 1563-66-2 (Carbofuran); 1861-32-1 (DCPA); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 2921-88-2 (Chlorpyriphos); 12427-38-2 (Maneb); 15299-99-7 (Napropamide); 17804-35-2 (Benomyl); 30560-19-1 (Acephate); 34014-18-1 (Tebuthiuron); 35367-38-5 (Diflubenzuron); 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 51235-04-2 (Hexazinone); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 55335-06-3 (Triclopyr); 57837-19-1 (Metalaxyl); 59682-52-9 (Fosamine); 74051-80-2 (Sethoxydim); 74222-97-2 (Sulfometuron methyl); 74223-64-6 (Metsulfuron-methyl); 81334-34-1 (Imazapyr) Role: PEP (Physical, engineering or chemical process), POL (Pollutant), OCCU (Occurrence), PROC (Process) (process-based simulations in assessing pesticide leaching potential for pine forest soils of Tenerife)

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Citations: 2) Neary, D; Environ Toxicol Chem 1993, 12, 411
Citations: 3) Norris, L; Residue Rev 1981, 80, 65
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Citations: 19) Pettyjohn, W; Regional assessment of aquifer vulnerability and sensitivity in the conterminous United States 1991, EPA-600/2-91/043
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Citations: 40) European Economic Community; relating to the quality of water intended for

human consumption 1980, 80/778/EEC Currently, no guidelines cover use of pesticides in the forested areas of the Canary island of Tenerife. An index-based model (Li) was used to rank the leaching potential of 50 pesticides that are, or could be, used for management purposes in the pine forest areas of Tenerife. Once the pesticides with the greatest leaching potential were identified, regional-scale groundwater vulnerability assessments, with consideration for data uncertainties, were generated using soil, climatic, and chem. information in a geog. information system framework for all pine forest areas of the island. Process-based simulations with the pesticide root zone model for the areas and pesticides of highest vulnerability were conducted to quant. characterize the leaching potentials. Carbofuran, hexazinone, picloram, tebuthiuron, and triclopyr were each identified as being potential leachers. [on SciFinder (R)] 0730-7268 pesticide/ leaching/ soil/ pine/ forest/ Tenerife;/ groundwater/ vulnerability/ pesticide/ leaching/ soil/ Tenerife

328. Ding, Xiang Dong and Krull, Ira S (1984). Trace analysis for organothiophosphate agricultural chemicals by high-performance liquid chromatography-photolysis-electrochemical detection. *Journal of Agricultural and Food Chemistry* 32: 622-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1984:204854
Chemical Abstracts Number: CAN 100:204854
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organothiophosphates, detn. by HPLC with on-line photolysis-electrochem. detection); Chromatography (high-performance, of organothiophosphate pesticides, with on-line photolysis-electrochem. detection)
CAS Registry Numbers: 52-85-7; 56-38-2; 56-72-4; 78-34-2; 86-50-0; 115-90-2; 121-75-5; 298-02-2; 330-55-2; 563-12-2; 732-11-6; 950-37-8; 2104-64-5; 2310-17-0; 2642-71-9; 3383-96-8; 10606-46-9; 13194-48-4; 21609-90-5; 23505-41-1 Role: ANT (Analyte), ANST (Analytical study) (detn. of, by HPLC with on-line photolysis-electrochem. detection) Org. thiophosphate agricultural chems., such as malathion [121-75-5], parathion [56-38-2], and others, were analyzed by high-performance liq. chromatog. (HPLC) with on-line photolysis (hv), followed by electrochem. detection (EC) using single or dual-electrode approaches for the species generated. This approach (HPLC-hv-EC) was applied to different thiophosphates, most of which are widely used agriculturally and for which trace residue levels are routinely monitored. Dual electrode response ratios were detd. for all of these analytes, along with min. detection limits in many cases. These approaches can also be used for the quality control evaluation of com. formulations by flow injection anal. with hv-EC and no HPLC sepns. Wheat middling exts. were analyzed by the commonly used gas chromatog. flame photometric detection method of residue anal., as well as by HPLC-hv-EC. These comparative studies indicate that the newer method is reproducible, accurate, precise, and entirely reliable. Std. addns. were applied to wheat middling exts., and the quant. results are compared with the external std. method. [on SciFinder (R)] 0021-8561 organothiophosphate/ pesticide/ analysis/ HPLC

329. Dismukes, G. Charles, Frank, Harry A., Friesner, Richard, and Sauer, Kenneth (1984). Electronic interactions between iron and the bound semiquinones in bacterial photosynthesis. EPR spectroscopy of oriented cells of Rhodopseudomonas viridis. *Biochimica et Biophysica Acta (BBA) - Bioenergetics* 764: 253-271.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Electron paramagnetic resonance (EPR) spectroscopy of the iron-semiquinone complex in photosynthetic bacterial cells and chromatophores of Rhodopseudomonas viridis is reported. Magnetic fields are used to orient the prolate ellipsoidal-shaped cells which possess a highly ordered internal structure, consisting of concentric, nearly cylindrical membranes. The field-

oriented suspension of cells exhibits a highly dichroic EPR signal for the iron-semiquinone complex, showing that the iron possesses a low-symmetry ligand field and exists in a preferred orientation within the native reaction-center membrane complex. The EPR spectrum is analyzed utilizing a spin hamiltonian formalism to extract physical information describing the electronic structure of the iron and the nature of its interaction with the semiquinones. Exact numerical solutions and analytical expressions for the transition frequencies and intensities derived from a perturbation theory expansion are presented, and a computer-simulated spectrum is given. It has been found that, for a model which assumes no preferred orientation within the plane of the membranes, the orientation of the Fe2+ ligand axis of largest zero-field splitting (Z, the principal magnetic axis) is titled 64+/-6[degree sign] from the membrane normal. The ligand field for Fe2+ has low symmetry, with zero-field splitting parameters of D1=7.0+/-1.3 cm-1 and E1=1.7+/-0.5 cm-1 and E1/D1=0.26 for the redox state Q1-Fe2+Q2-. The rhombic character of the ligand field is increased in the redox state Q1Fe2+Q-2, where 0.33>E2/D2>0.26. This indicates that the redox state of the quinones can influence the ligand field symmetry and splitting of the Fe2+. There exists an electron-spin exchange interaction between Fe2+ and Q-1 and Q-2, having magnitudes J1=0.12+/-0.03 cm-1 and J2[reverse similar, equals]0.06 cm-1, respectively. Such weak interactions indicate that a proper electronic picture of the complex is as a pair of immobilized semiquinone radicals having very little orbital overlap (probably fostered by superexchange) with the Fe2+ orbitals. The exchange interaction is analyzed by comparison with model systems of paramagnetic metals and free radicals to indicate an absence of direct coordination between Fe2+ and Q-1 and Q-2. Selective line-broadening of some of the EPR transitions, involving Q- coupling to the magnetic sublevels of the Fe2+ ground state, is interpreted as arising from an electron-electron dipolar interaction. Analysis of this line-broadening indicates a distance of 6.2-7.8 A between Fe2+ and Q-1, thus placing Q1 outside the immediate coordination shell of Fe2+.
Bacterial photosynthesis/ ESR/ Electron transport/ Iron - semiquinone/ (Rps. viridis)
http://www.sciencedirect.com/science/article/B6T1S-47T8RM5-5J/2/aed5d6a2e9d35102e6e0b84bf7d6bdea

330. Dobson, Rowan, Scheyer, Anne, Rizet, Anne Laure, Mirabel, Philippe, and Millet, Maurice (2006). Comparison of the efficiencies of different types of adsorbents at trapping currently used pesticides in the gaseous phase using the technique of high-volume sampling. *Analytical and Bioanalytical Chemistry* 386: 1781-1789.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:1245275
Chemical Abstracts Number: CAN 146:49181
Section Code: 59-2
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Air pollution (comparing efficiency of different adsorbents at trapping airborne gas-phase pesticides via high-vol. sampling in Strasbourg, France); Polyurethanes Role: PRP (Properties), TEM (Technical or engineered material use), USES (Uses) (foam sorbent; alone and with XAD resins; comparing efficiency of different adsorbents at trapping airborne gas-phase pesticides via high-vol. sampling in Strasbourg, France); Pesticides (gas-phase; comparing efficiency of different adsorbents at trapping airborne gas-phase pesticides via high-vol. sampling in Strasbourg, France); Adsorption (gaseous pesticide trapping; comparing efficiency of different adsorbents at trapping airborne gas-phase pesticides via high-vol. sampling in Strasbourg, France); Glass fibers Role: PRP (Properties), TEM (Technical or engineered material use), USES (Uses) (high-vol. samplers contg. filters of; comparing efficiency of different adsorbents at trapping airborne gas-phase pesticides via high-vol. sampling in Strasbourg, France); Sampling apparatus (high-vol.; comparing efficiency of different adsorbents at trapping airborne gas-phase pesticides via high-vol. sampling in Strasbourg, France)

CAS Registry Numbers: 58-89-9 (Lindane); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos-methyl); 94-74-6 (MCPA); 94-75-7 (2,4-D); 133-06-2 (Captan); 298-00-0 (Parathion-methyl); 330-54-1 (Diuron); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet); 959-98-8 (a-Endosulfan); 1582-09-8 (Trifluralin); 1689-84-5 (Bromoxynil); 1912-24-9 (Atrazine); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos-ethyl); 6640-24-0; 7786-34-7 (Mevinphos); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 33213-65-9 (b-Endosulfan); 34123-59-6 (Isoproturon); 36734-19-7 (Iprodione); 43121-43-3 (Triadimefon); 51218-45-2 (Metolachlor); 83164-33-4 (Diflufenican); 107534-96-3 (Tebuconazole) Role: PEP (Physical, engineering or chemical process), POL (Pollutant), REM (Removal or disposal), OCCU (Occurrence), PROC (Process) (comparing efficiency of different adsorbents at trapping airborne gas-phase pesticides via high-vol. sampling in Strasbourg, France); 9060-05-3 (XAD 2); 37380-42-0 (XAD 4) Role: PRP (Properties), TEM (Technical or engineered material use), USES (Uses) (sorbent; alone and in polyurethane foam sandwiches; comparing efficiency of different adsorbents at trapping airborne gas-phase pesticides via high-vol. sampling in Strasbourg, France)
Citations: 1) Glotfelty, D; J Agric Food Chem 1984, 32, 639
Citations: 2) Majewski, M; Environ Sci Technol 1993, 27, 121
Citations: 3) Van den Berg, E; Water Air Soil Pollut 1999, 115, 195
Citations: 4) Cherif, S; Int J Environ Anal Chem 1997, 68, 199
Citations: 5) Van Djick, H; Water Air Soil Pollut 1999, 115, 21
Citations: 6) Kubiak, R; Proc XII Conf of Pesticides Chemistry 2003, 473
Citations: 7) Bidleman, T; Environ Sci Technol 1988, 22, 361
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Citations: 9) Peck, A; Environ Sci Technol 2005, 39, 2952
Citations: 10) Coutant, R; Atmos Environ 1981, 22, 403
Citations: 11) Kaupp, H; Atmos Environ 1992, 26A, 2259
Citations: 12) Bidleman, T; Environ Sci Technol 1986, 20, 1038
Citations: 13) Millet, M; Arch Environ Contam Toxicol 1996, 31, 543
Citations: 14) Sanusi, A; Sci Tot Environ 2000, 263(1-3), 263
Citations: 15) Sauret, N; Environ Pollut 2000, 110, 243
Citations: 16) Eisenreich, S; Environ Sci Technol 1981, 15, 30
Citations: 17) Lane, D; Environ Sci Technol 1992, 26, 126
Citations: 18) Alegria, H; Environ Sci Technol 2000, 34, 1953
Citations: 19) Mejjers, S; Environ Sci Technol 2003, 37, 1292
Citations: 20) Scheyer, A; Anal Bioanal Chem 2005, 381, 1226
Citations: 21) Sanusi, A; Atmos Environ 1999, 33, 4941
Citations: 22) Pyysalo, H; Atmos Environ 1987, 21, 1167
Citations: 23) Garnier, L; Atmos Environ 1997, 31, 3787
Citations: 24) Hoff, R; Environ Sci Technol 1992, 26, 266
Citations: 25) Cessna, A; Chemosphere 2000, 40, 795
Citations: 26) Wania, F; Environ Sci Technol 2003, 37, 1352 Air samples were collected in an urban area (central Strasbourg, France) in spring/summer 2004, to det. concns. of different pesticides in gaseous and particulate phases and compare the efficiency of adsorbents at trapping the gaseous phase. Two high-vol. samplers were placed next to each other in the botanical garden in Strasbourg. Air was sampled for 48-h using a glass fiber filter and different adsorbents. These adsorbents and adsorbent combinations were compared: XAD-2 with polyurethane foam (PUF), XAD4 with PUF, XAD-2 with a PUF-XAD2-PUF sandwich, and PUF with a PUF-XAD4-PUF sandwich. In the order of efficiency at trapping pesticides, sandwiches were most efficient, followed by XAD-2 and XAD-4 resins; however, although the sandwiches were slightly better at trapping than XAD-2, use of XAD-2 is recommended for tech. reasons. PUF were least efficient at trapping. Among 27 pesticides analyzed, trifluralin, alachlor, metolachlor, and captan were the most concd., followed by lindane, a-endosulfan and diflufenican. This result was in accordance with farming activity in the Alsace region, where pesticides used on large crops (maize, cereals) are applied in the greatest quantity. Vineyards are another important form of agriculture in Alsace, but the quantity of pesticides applied vs. those used on large crops is very low, explaining the low detection of vineyard pesticides in air obsd. here. Concns. depended on the pesticide and its properties; on the whole, they remained rather low. It is important to conduct these

measurements in urban environments, since these compds. can be harmful to human health and the environment; thus, their concns. must be monitored. [on SciFinder (R)] 1618-2642 gaseous/ particulate/ pesticide/ air/ pollution/ Strasbourg/ France;/ adsorption/ air/ purifn/ gaseous/ pesticide/ removal/ Strasbourg/ France

331. Domine, D., Devillers, J., Chastrette, M., and Karcher, W (1993). Estimating pesticide field half-lives from a backpropagation neural network. *SAR and QSAR in Environmental Research* 1: 211-19.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:156650
Chemical Abstracts Number: CAN 120:156650
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (field half-life and pesticidal activity of, backpropagation neural network estn. of); Simulation and Modeling (in estg. pesticide field half-lives from backpropagation neural network); Molecular structure-biological activity relationship (pesticidal, field half-life in relation to)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 61-82-5 (Amitrole); 74-83-9 (Methyl bromide); 82-68-8 (PCNB); 86-50-0 (Azinphos-methyl); 88-85-7 (Dinoseb); 94-75-7 (2,4-D); 99-30-9 (DCNA); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 120-36-5 (Dichlorprop); 121-75-5 (Malathion); 122-34-9 (Simazine); 122-42-9 (Propham); 126-22-7 (Tribufon); 133-06-2 (Captan); 141-66-2 (Dicrotophos); 298-00-0 (Methyl parathion); 300-76-5 (Naled); 314-40-9 (Bromacil); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 542-75-6 (1,3-Dichloropropene); 709-98-8 (Propanil); 732-11-6 (Phosmet); 834-12-8 (Ametryn); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1698-60-8 (Pyrazon); 1861-40-1 (Benefin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1982-47-4 (Chloroxuron); 1982-49-6 (Siduron); 2008-41-5 (Butylate); 2164-17-2 (Fluometuron); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2439-01-2 (Oxythioquinox); 2921-88-2 (Chlorpyrifos); 3478-94-2 (Piperalin); 3861-41-4 (Bromoxynil butyrate); 5234-68-4 (Carboxin); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 15972-60-8 (Alachlor); 16672-87-0 (Ethephon); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 19666-30-9 (Oxadiazon); 20354-26-1 (Methazole); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22781-23-3 (Bendiocarb); 23135-22-0 (Oxamyl); 23950-58-5 (Pronamide); 26644-46-2 (Triforine); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 36734-19-7 (Iprodione); 38727-55-8 (Diethatyl-ethyl); 39300-45-3 (Dinocap); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 42509-80-8 (Isazofos); 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 55283-68-6 (Ethalfluralin); 59669-26-0 (Thiodicarb); 66841-25-6 (Tralomethrin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 72490-01-8 (Fenoxycarb); 78587-05-0 (Hexythiazox); 81334-34-1 (Imazapyr); 81335-77-5 (Imazethapyr); 81777-89-1 (Clomazone); 82657-04-3 (Bifenthrin); 91465-08-6 (Lambda-cyhalothrin) Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study) (field half-life and pesticidal activity of, backpropagation neural network estn. of) The field half-lives of 110 pesticides were modelled using a backpropagation neural network (NN). The mols. were described by means of the frequency of 17 structural fragments. Before training the NN, different scaling transformations were assayed. Best results were obtained with correspondence factor anal. which also allowed a redn. of

dimensionality. The training and testing sets of the NN anal. gave 95.5% and 84.6% of good classifications, resp. Comparison with discriminant factor anal. showed that a backpropagation NN was more appropriate to model the field half-lives of pesticides. [on SciFinder (R)] 1062-936X backpropagation/ neural/ network/ pesticide/ structure

332. Domine, Daniel, Devillers, James, Chastrette, Maurice, and Karcher, Walter (1992). Multivariate structure-property relationships (MSPR) of pesticides. *Pesticide Science* 35: 73-82.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:442708
Chemical Abstracts Number: CAN 117:42708
Section Code: 5-6
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (multivariate structure-property relationship of); Molecular structure-property relationship (of pesticides, multivariate); Henry's law; Molecular weight; Partition; Solubility; Vapor pressure (of pesticides, multivariate structure-property relationships of); Statistics and Statistical analysis (multivariate, of phys. chem. properties of pesticides)
CAS Registry Numbers: 50-29-3; 52-68-6; 53-19-0; 55-38-9; 56-38-2; 57-74-9; 58-89-9; 60-51-5; 60-57-1; 62-73-7; 63-25-2; 72-20-8; 72-54-8; 72-55-9; 76-44-8; 86-50-0; 93-76-5; 97-17-6; 101-21-3; 101-42-8; 106-46-7; 107-02-8 (2-Propenal); 114-26-1; 115-29-7; 116-06-3; 121-75-5; 122-14-5; 122-34-9; 150-68-5; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 309-00-2; 314-40-9; 319-84-6; 319-85-7; 319-86-8; 330-54-1; 330-55-2; 333-41-5; 470-90-6; 563-12-2; 709-98-8; 732-11-6; 786-19-6; 1194-65-6; 1563-66-2; 1582-09-8; 1912-24-9; 1918-00-9; 1918-02-1; 1918-16-7; 2385-85-5; 2463-84-5; 2921-88-2; 3424-82-6; 5598-13-0; 5902-51-2; 8001-35-2 (Toxaphene); 10311-84-9; 15972-60-8; 16752-77-5; 21609-90-5 Role: PRP (Properties) (multivariate structure-property relationship of) Vapor pressures, aq. solubilities, n-octanol/water partition coeffs., mol. wts., and Henry's law consts. for 64 pesticides were obtained from the literature and analyzed by means of Principal Component Anal. (PCA). Classical PCA displays underline structure-property relationships. However, interpretation of PCA requires ref. to the original data matrix and comparisons made between every point. To overcome this problem, a novel graphical approach, based on collections of maps encoding the chem. and structural information included in the original data set, was used to interpret the results. Multivariate analyses coupled to graphical tools were useful for interpreting physicochem. properties of pesticides in terms of multivariate structure-property relationships (MSPR). [on SciFinder (R)] 0031-613X pesticide/ structure/ property/ relationship

333. Donnelly, J. R., Drewes, L. A., Johnson, R. L., Munslow, W. D., Knapp, K. K., and Sovocool, G. W (1990). Purity and heat of fusion data for environmental standards as determined by differential scanning calorimetry. *Thermochimica Acta* 167: 155-87.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:137492
Chemical Abstracts Number: CAN 114:137492
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 69
Document Type: Journal
Language: written in English.
Index Terms: Herbicides; Pesticides (environmental stds., heat of fusion and purity of, DSC detn. of); Amides; Carboxylic acids; Phenols Role: PRP (Properties) (environmental stds., heat

of fusion and purity of, DSC detn. of); Standard substances (heat of fusion and purity of, DSC detn. of); Heat of fusion and Heat of freezing (of environmental stds., DSC detn. of); Calorimetry (differential scanning, of environmental stds., for purity and heat of fusion detn.) CAS Registry Numbers: 57-13-6D (Urea); 66-22-8D (Uracil); 463-77-4D (Carbamic acid); 7723-14-0D (Phosphorus); 7782-50-5D (Chlorine); 12654-97-6D (Triazine) Role: BIOL (Biological study) (environmental stds., heat of fusion and purity of, DSC detn. of); 50-18-0 (Cyclophosphamide); 50-29-3; 51-36-5 (3,5-Dichlorobenzoic acid); 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 56-38-2 (Parathion, ethyl); 56-53-1 (Diethylstilbestrol); 57-11-4 (Octadecanoic acid); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 61-82-5 (Amitrole); 62-55-5 (Thioacetamide); 62-56-6 (Thiourea); 63-25-2 (Carbaryl); 70-30-4 (Hexachlorophene); 72-43-5; 72-54-8; 72-55-9; 72-56-0 (Ethylan); 75-60-5 (Cacodylic acid); 76-87-9 (Fentin hydroxide); 80-33-1; 80-38-6 (Fenson); 81-84-5 (Naphthalic anhydride); 82-68-8 (Quintozene); 83-05-6; 83-26-1 (Pindone); 83-79-4 (Rotenone); 84-65-1 (Anthraquinone); 85-01-8 (Phenanthrene); 85-34-7 (Fenac); 85-44-9 (1,3-Isobenzofurandione); 86-50-0 (Azinphos methyl); 86-87-3 (1-Naphthaleneacetic acid); 87-47-8 (Pyrolan); 87-61-6 (1,2,3-Trichlorobenzene); 87-86-5 (PCP); 88-75-5 (2-Nitrophenol); 88-85-7 (Dinoseb); 90-15-3 (1-Naphthalenol); 90-43-7 (2-Phenylphenol); 90-98-2 (4,4'-Dichlorobenzophenone); 93-65-2; 93-72-1; 93-76-5; 93-80-1 (4-(2,4,5-Trichlorophenoxy)butanoic acid); 94-74-6; 94-75-7 (2,4-D Acid); 94-81-5; 94-82-6; 95-50-1 (1,2-Dichlorobenzene); 95-77-2 (3,4-Dichlorophenol); 95-95-4 (2,4,5-Trichlorophenol); 99-30-9 (Dichloran); 100-02-7 (4-Nitrophenol); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 101-27-9 (Barban); 101-42-8 (Fenuron); 101-84-8 (Phenyl ether); 103-33-3 (Azobenzene); 106-46-7 (1,4-Dichlorobenzene); 108-70-3 (1,3,5-Trichlorobenzene); 114-26-1 (Propoxur); 115-32-2; 115-93-5 (Cythioate); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 117-26-0 (Bulan); 117-27-1 (Prolan); 117-52-2 (Coumafuryl); 117-80-6 (Dichlone); 118-74-1 (HCB); 118-75-2 (Chloranil); 120-36-5 (Dichlorprop); 120-51-4 (Benzyl benzoate); 122-34-9 (Simazine); 122-39-4; 122-42-9 (Propham); 122-88-3 (4-Chlorophenoxy acetic acid); 124-04-9 (Hexanedioic acid); 133-07-3 (Folpet); 133-90-4 (Chloramben); 139-40-2 (Propazine); 140-41-0; 150-68-5 (Monuron); 208-96-8 (Acenaphthylene); 298-00-0 (Parathion, methyl); 299-84-3 (Ronnel); 299-85-4 (Zytron); 299-86-5 (Crufomate); 305-03-3; 314-40-9 (Bromacil); 315-18-4 (Mexacarbate); 330-54-1 (Diuron); 330-55-2 (Linuron); 464-49-3; 485-31-4 (Binapacryl); 504-24-5 (Avitrol); 510-15-6 (Chlorobenzilate); 527-20-8; 534-52-1; 555-37-3 (Neburon); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 789-02-6; 886-50-0 (Terbutryn); 887-54-7 (Dacthal monoacid); 900-95-8 (Fentin acetate); 950-37-8 (Methidathion); 954-21-2 (Desmethyl diphenamid); 957-51-7 (Diphenamid); 959-98-8 (Endosulfan I); 1031-07-8 (Endosulfan cyclic sulfate); 1194-65-6 (Dichlobenil); 1333-82-0 (Chromium oxide (CrO3); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1596-84-5 (Daminozide); 1610-18-0 (Prometon); 1689-83-4 (Ioxynil); 1689-84-5; 1689-99-2 (Bromoxynil octanoate); 1698-60-8 (Pyrazon); 1746-81-2 (Monolinuron); 1836-75-5 (Nitrofen); 1861-32-1 (Chlorthal-dimethyl); 1861-40-1 (Benefin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-16-7 (Propachlor); 1918-18-9 (Swep); 1928-37-6 (2,4,5-T Methyl ester); 1929-82-4 (Nitrapyrin); 1982-47-4 (Chloroxuron); 2032-65-7 (Methiocarb); 2051-24-3 (Decachlorobiphenyl); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2164-08-1 (Lenacil); 2164-09-2 (Dicryl); 2164-17-2 (Fluometuron); 2303-17-5 (Tri-allate); 2307-68-8 (Solan); 2310-17-0 (Phosalone); 2314-09-2; 2425-06-1 (Captafol); 2425-10-7 (Meobal); 2439-01-2 (Oxythioquinox); 2439-10-3 (Dodine); 2597-93-5 (Emmi); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2642-71-9 (Azinphos ethyl); 2675-77-6 (Chloroneb); 2921-88-2 (Chlorpyrifos); 3060-89-7 (Metobromuron); 3337-71-1 (Asulam); 3383-96-8 (Temephos); 3424-82-6; 3691-35-8 (Chlorophacinone); 3811-49-2 (Salithion); 3942-54-9 (CPMC); 4147-51-7 (Dipropetryn); 4726-14-1 (Nitralin); 4841-20-7 (Silvex, methyl ester); 5103-71-9; 5131-24-8 (Ditalimfos); 5234-68-4 (Carboxin); 5251-93-4 (Benzadox); 5259-88-1 (Oxycarboxin); 5344-82-1 (1-(o-Chlorophenyl)thiourea); 5598-13-0 (Chlorpyrifos, methyl); 5598-15-2; 5707-69-7 (Drazoxolon); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6164-98-3 (Chlordimeform); 6597-78-0 (Dicamba, methyl ester); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7286-84-2 (Chloramben-methyl); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 7600-50-2; 7635-32-7 (Aldicarb sulfoxide oxime); 8000-98-4 (Diaphene); 10049-60-2 (2-Aminobutane hydrochloride); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifor); 10453-86-8 (Resmethrin); 10606-46-9; 12771-68-5 (Ancymidol); 13153-11-2 (1,3-Propane sulfone); 13356-08-6 (Fenbutatin oxide);

13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8; 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 15271-41-7 (Tranid); 15299-99-7 (Napropamide); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16672-87-0 (Ethephon); 16752-77-5 (Methomyl); 17781-16-7; 18181-80-1 (Bromopropylate); 18530-56-8 (Norea); 19044-88-3 (Oryzalin); 19044-94-1; 19666-30-9 (Oxadiazon); 19937-59-8 (Metoxuron); 20354-26-1 (Methazole); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 22212-55-1 (Benzoylprop-ethyl); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 22936-86-3 (Cyprazine); 23103-98-2D; 23135-22-0 (Oxamyl); 23947-60-6 (Ethirimol); 23950-58-5 (Pronamide); 24691-76-7 (Pyracarbolid); 25057-89-0; 26225-79-6 (Ethofumesate); 26399-36-0 (Profluralin); 27218-04-8; 27314-13-2 (Norflurazon); 29091-05-2 (Dinitramine); 30560-19-1; 30667-99-3; 31093-43-3 (Naphthalene acetamide); 32809-16-8 (Procymidone); 32889-48-8 (Procyazine); 33245-39-5 (Fluchloralin); 33422-33-2; 33629-47-9 (Butralin); 34014-18-1 (Tebuthiuron); 34123-59-6 (Isoproturon); 35367-38-5 (Diflubenzuron); 35554-44-0 (Imazalil); 37924-13-3 (Perfluidone); 38727-55-8; 39196-18-4 (Thiofanox); 40487-42-1 (Pendimethalin); 41814-78-2; 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Bayleton); 47000-92-0 (Fluoridamid); 49866-87-7 (Difenzoquat); 50471-44-8 (Vinclozolin); 50594-66-6 (Acifluorfen); 51235-04-2 (Hexazinone); 51338-27-3 (Diclofop, methyl); 52918-63-5 (Deltamethrin); 53780-34-0 (Mefluidide); 55219-65-3 (Triadimenol); 55335-06-3 (Triclopyr); 55511-98-3 (Buthidazole); 57837-19-1 (Metalaxyl); 58138-08-2 (Dowco 356); 67485-29-4 (Amdro) Role: PRP (Properties) (heat of fusion and purity of, DSC detn. of) DSC was applied to 273 environmental stds., including pesticides, herbicides, and related compds. Members of the following chem. classes were analyzed: organophosphorus, organochlorine, phenol, triazine, uracil, phenoxy acid, urea, carboxylic acid, amide, and others including amines, organometallics, esters, and heterocycles. Values for the heat of fusion, exptl. temp. onset, theor. temp. onset for 100% pure compd., and percent purity are presented. DSC was applicable to most classes of org. environmental stds. and their metabolites. [on SciFinder (R)] 0040-6031 DSC/ environmental/ std/ purity;/ fusion/ heat/ environmental/ std/ DSC

334. Douce, David, Hancock, Peter, Dudd, Stephanie, Newton, Anthony, Mol, Hans G. J., and Rontree, Sandra (2005). Application of GC-triple quadrupole MS/MS for multi-residue analysis of pesticides in complex matrices. *Innovations in Food Technology* 26: 69-71.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:218708
Chemical Abstracts Number: CAN 143:42841
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food contamination (GC-triple quadrupole MS/MS for multi-residue anal. of pesticides in complex matrixes in relation to); Cannabis; Food analysis; Gas chromatography; Ginkgo; Herb; Nicotiana tabacum; Pesticides (application of GC-triple quadrupole MS/MS for multi-residue anal. of pesticides in complex matrixes); Tea products (beverages, herbal teas; application of GC-triple quadrupole MS/MS for multi-residue anal. of pesticides in complex matrixes); Food (curry; application of GC-triple quadrupole MS/MS for multi-residue anal. of pesticides in complex matrixes); Food (infant; application of GC-triple quadrupole MS/MS for multi-residue anal. of pesticides in complex matrixes); Food (massala; application of GC-triple quadrupole MS/MS for multi-residue anal. of pesticides in complex matrixes); Tandem mass spectrometry (quadrupole; application of GC-triple quadrupole MS/MS for multi-residue anal. of pesticides in complex matrixes); Quadrupole mass spectrometry (tandem; application of GC-triple quadrupole MS/MS for multi-residue anal. of pesticides in complex matrixes)
CAS Registry Numbers: 50-29-3 (DDT); 51-03-6 (Piperonyl butoxide); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-54-8 (TDE); 72-55-9 (DDE); 76-44-8 (Heptachlor); 82-68-8

(Quintozene); 86-50-0 (Azinphos-methyl); 101-21-3 (Chloropropham); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 121-20-0 (Cinerin-II); 121-21-1 (Pyrethrin I); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-01-1; 309-00-2 (Aldrin); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 333-41-5 (Diazinon); 338-45-4; 470-90-6 (Chlorfenvinphos); 527-20-8 (Pentachloroaniline); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1172-63-0 (Jasmolin-II); 1563-66-2 (Carbofuran); 1825-19-0; 1836-75-5 (Nitrofen); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2597-03-7 (Phenthoate); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyriphos); 4466-14-2 (Jasmolin-I); 5103-71-9 (a-Chlordan); 5103-74-2 (g-Chlordan); 5598-13-0; 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13593-03-8 (Quinalphos); 15972-60-8 (Alachlor); 18181-80-1 (Bromopropylate); 22248-79-9 (Tetrachlorvinphos); 24017-47-8 (Triazophos); 26002-80-2 (Phenothrin); 27304-13-8 (Oxychlordan); 29232-93-7 (Pirimiphos-methyl); 34643-46-4 (Prothiofos); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52918-63-5 (Deltamethrin); 55219-65-3 (Triadimenol); 55290-64-7 (Dimethipin); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68359-37-5 (Cyfluthrin); 70124-77-5 (Flucythrinate); 80844-07-1 (Etofenprox); 91465-08-6; 95465-99-9 (Cadusafos); 101007-06-1 (Acrinathrin); 102851-06-9 (Tau-Fluvalinate); 120068-37-3 (Fipronil) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (application of GC-triple quadrupole MS/MS for multi-residue anal. of pesticides in complex matrixes)
Citations: 1) Anon; European Council Directives 76/895/EEC, 86/362/EEC, 86/363/EEC, 90/642/EEC and 2003/13/EC
Citations: 2) Anon; European Commission SANCO/825/00
Citations: 3) de Kok, A; The 5th European Pesticide Residue Workshop 2004
Citations: 4) Ortelli, D; Analytica Chimica Acta 2004, 520, 33 GC with tandem quadrupole MS detection (GC/MS/MS) was used for the surveillance of pesticide residues in a range of food matrixes. Sufficient selectivity was achieved to allow generic sample clean up even for very complex food matrixes. In particular, the Waters Micromass Quattro micro GC can be used in routine anal. at 10 ms dwell times. Subsequent expansion of this method to include an increased no. of MRM transitions would be possible without loss in sensitivity. The system provided good sensitivity (1-10 pg on column) for the majority of pesticide residues, allowing the amt. of matrix introduced into the GC system to be minimized. [on SciFinder (R)] 1465-0460 pesticide/ detn/ food/ matrix/ GC/ tandem/ quadrupole/ MS

335. Dougherty, Ralph C. and Wander, Joseph D (1980). Chloride attachment negative chemical ionization mass spectra of organophosphate pesticides. *Biomedical Mass Spectrometry* 7: 401-4.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1981:405935
Chemical Abstracts Number: CAN 95:5935
Section Code: 22-2
Section Title: Physical Organic Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectra (of organophosphate pesticides, dichloromethane-mediated); Pesticides (organophosphate, neg. chem. ionization mass spectra of)
CAS Registry Numbers: 60-51-5; 78-34-2; 86-50-0; 298-02-2; 298-03-3; 298-04-4; 563-12-2; 640-15-3; 732-11-6; 741-58-2; 786-19-6; 950-37-8; 2275-14-1; 2310-17-0; 2540-82-1; 2595-54-2; 10311-84-9; 24934-91-6 Role: PRP (Properties) (neg. chem. ionization mass spectrum of, dichloromethane-mediated) The CH2Cl2-mediated neg. chem. ionization mass spectra are reported for 17 pesticides of the type (RO)2PS2(CH2)nR1 (R = Me, Et, CHMe2; n = 0, 1, 2; R1 =

heteroalkyl, heterocyclyl) and for demeton-O. In general [(RO)2PS2]- was the base peak and a Cl attachment ion was always present, which allowed molecularly specific confirmation of the compd. Mols. having stable potential anions in the R1 moiety, selectively formed the stable anions. The temp. dependency of the mass spectra was investigated on several representative examples. [on SciFinder (R)] 0306-042X organophosphate/ pesticide/ mass/ spectrum

336. Dourson, M. L., Knauf, L. A., and Swartout, J. C. (1992). On Reference Dose (Rfd) and Its Underlying Toxicity Data Base. *Toxicol ind health* 8: 171-189.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The toxicity data of pesticides were summarized and compared amongst different animal species and types of bioassays. These comparisons showed the expected inter-species and inter-bioassay variability. After quantitative and statistical analysis of these data, it was concluded that, on the average, a 2-year dog bioassay detected toxic responses at similar doses as a 2-year rat study, and that both of these bioasays detected toxic responses at lower doses than either a rat 2-generation bioassay, a rat developmental toxicity study, or a 2-year mouse bioassay. Although these chronic dog and rat bioassays were found to detect toxic responses at lower doses than the other studies listed, this analysis does not reflect the seriousness of the effects that were compared. Within the confines of this analysis, then, it appears that a 2-year dog and rat study, reproductive and developmental bioassays are a sufficient data base on which to estimate high confidence Reference Doses (
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: COMPARATIVE STUDY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: METABOLISM
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: CARNIVORA
MESH HEADINGS: MURIDAE
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Comparative Biochemistry
KEYWORDS: Biochemical Studies-General
KEYWORDS: Metabolism-General Metabolism
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Canidae
KEYWORDS: Muridae
LANGUAGE: eng

337. Dourson, M. L. and Lu, F. C. (1995). Safety/Risk Assessment of Chemicals Compared for Different Expert Groups. *Biomedical and environmental sciences* 8: 1-13.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Two sets of 65 risk/safety assessments are compared. These assessments, mostly for pesticide chemicals, were developed by the World Health Organization (WHO) and the U.S. Environmental Protection Agency (EPA) at different times, often with different toxicity data, and with slightly different methods. Despite these differences, 38 sets of assessments give values that are within a 3-fold range of each other; 18 of these 38 are essentially identical (when rounded to one digit of precision), although not always for the same reasons. An additional 20 sets give values that lie within a 30-fold range; 6 sets lie within

a 300-fold range; and the bromomethane ADI and RfD are 700-fold apart. In addition, on average the EPA values are lower than the WHO numbers. These comparisons are discussed in relationship to a developing world-wide consensus that the methods for evaluating the safety/risks from various chemicals should be more consistent and the resulting assessments should be
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: ENVIRONMENTAL HEALTH
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: General Biology-Institutions
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Miscellaneous
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

338. Dowd, J. F. , Bush, P. B., Neary, D. G., Taylor, J. W., and Berisford, Y. C (1993). Modeling pesticide movement in forested watersheds: use of PRZM for evaluating pesticide options in loblolly pine stand management. *Environmental Toxicology and Chemistry* 12: 429-39.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1993:207535
Chemical Abstracts Number: CAN 118:207535
Section Code: 5-6
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 61
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (movement of, in forested watershed, modeling of); Simulation and Modeling (pesticide root zone model in, for prediction of pesticide movement in soils); Pine (P. taeda, pesticides for, movement of, pesticide root zone model for evaluation of)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 58-89-9 (Lindane); 63-25-2 (Carbaryl); 86-50-0 (Azinphosmethyl); 94-75-7 (2,4-D); 94-82-6 (2,4-DB); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-34-9 (Simazine); 300-76-5 (Naled); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 1071-83-6 (Glyphosate); 1563-66-2 (Carbofuran); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 2921-88-2 (Chlorpyrifos); 30560-19-1 (Acephate); 35367-38-5 (Diflubenzuron); 51235-04-2 (Hexazinone); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 55335-06-3 (Triclopyr); 81510-83-0 (Arsenal) Role: BIOL (Biological study) (movement of, in forested watersheds, modeling of) The fate of pesticides in forest ecosystems is strongly influenced by climatic conditions. Drought or excessive rainfall may seriously affect dissipation rates, routes, and the extent of movement through soil profiles. The pesticide root zone model (PRZM) is designed to predict pesticide movement in unsatd. soils within and below the plant root zone in agricultural systems. The applicability of this model to a forested watershed was tested by using on site hydrol. data to simulate a field application of lindane. PRZM-predicted data were compared with measured residue levels and found to est. accurately lindane movement and leaching at shallow soil depths (0-10 cm), but underestimated residue levels at deeper soil depths (40-50 cm). Model simulations were used to evaluate various insecticide and herbicide

application scenarios used in pine plantation management. Results from these simulations indicate that insecticides commonly used for gypsy moth (Lymantria dispar L.) or southern pine beetle (Dendroctonus frontalis Zimm.) control either are not sufficiently persistent or are adsorbed in the soil to such an extent that they do not pose a potential groundwater contamination problem. In contrast, site prepn. herbicides show a potential to leach whenever proper meterol. conditions such as rainfall prevail after application. These herbicides are persistent (t1/2 > 50), moderately adsorbed (10 > Kd > 0.1, assuming 1.7% org. matter), and applied under conditions of reduced evapotranspiration. [on SciFinder (R)] 0730-7268 pesticide/ root/ zone/ model/ pine/ forest

339. Downing, F. S. and Stubbs, V. K (19800110). Synergistic mixtures of pyrethroids and organophosphorus compounds useful as tickicides. 26 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1980:192753
Chemical Abstracts Number: CAN 92:192753
Section Code: 5-4
Section Title: Agrochemicals
Coden: ALXXAP
Index Terms: Acaricides (synergistic, pyrethroid- and organophosphorus compds.-contg.)
CAS Registry Numbers: 52315-07-8 Role: BIOL (Biological study) (acaricidal compn. contg. organophosphorus compds. and, synergistic); 52-85-7; 55-38-9; 56-72-4; 78-34-2; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 786-19-6; 2921-88-2; 4824-78-6; 23505-41-1 Role: BIOL (Biological study) (acaricidal compn. contg. pyrethroid and, synergistic)
Patent Application Country: Application: AU Mixts. of NRDC 149 (I) [52315-07-8] and organophosphorus insecticides are synergistic tick-control agents. Thus, a mixt. contg. 62 ppm I and 125 ppm pirimiphos ethyl [23505-41-1] was 100% lethal to Boophilus microplus, whereas the components by themselves were less effective. [on SciFinder (R)] A61K031-665; A61K031-675; A61K031-66; A61K031-215. acaricide/ synergism/ pyrethroid/ organophosphorus

340. Downing, Francis Stanley and Stubbs, Vincent Kennard (19800313). Permethrin organophosphorus composition. 32 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1981:97997
Chemical Abstracts Number: CAN 94:97997
Section Code: 5-13
Section Title: Agrochemicals
CA Section Cross-References: 19
Coden: ALXXAP
Index Terms: Boophilus microplus (acaricides for control of, synergistic, permethrin-contg.); Acaricides (synergistic, permethrin-contg., for Boophilus microplus control)
CAS Registry Numbers: 52645-53-1; 61949-77-7 Role: BIOL (Biological study) (Boophilus microplus control by synergistic compn. contg.); 52-85-7; 55-38-9; 56-72-4; 78-34-2; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 786-19-6; 2104-96-3; 2921-88-2; 23505-41-1 Role: BIOL (Biological study) (Boophilus microplus control by synergistic compn. contg. permethrin and)
Patent Application Country: Application: AU Synergistic acaricidal compns. for control of Boophilus microplus are given, contg. NRDC 143 (I) [52645-53-1] or a I isomer, and a phosphate or phosphorothioate, such as chlorfenoinphos [470-90-6], Nexagan [2104-96-3], chlorpyriphos [2921-88-2], etc. Thus, dipping into a compn. contg. 125 ppm I and 250 ppm Nexagam, synergistically controlled Boophilus microplus. [on SciFinder (R)] A01N009-36; A01N009-24. Boophilus/ acaricide/ synergism/ permethrin

341. Downing, Francis Stanley and Stubbs, Vincent Kennard (19780612). Pesticidal compositions. 26 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1978:610430
Chemical Abstracts Number: CAN 89:210430
Section Code: 5-4
Section Title: Agrochemicals
Coden: SFXXAB
Index Terms: Insecticides (phosphorus-contg., synergistic mixt. with NRDC 149, cattle tick control by)
CAS Registry Numbers: 52-85-7; 55-38-9; 56-72-4; 78-34-2; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 786-19-6; 2921-88-2; 4824-78-6; 23505-41-1 Role: BIOL (Biological study) (acaricidal compn. contg. NRDC 149, synergistic, for cattle tick control); 52315-07-8 Role: BIOL (Biological study) (acaricidal compn. contg. organophosphorus insecticides and, synergism of, for cattle tick control)
Patent Application Country: Application: ZA Synergistic mixts. are described for the control of insecticide-resistant cattle ticks, made of NRDC 149 [52315-07-8] and an organophosphorus insecticide. Thus, dipping into a mixt. of 62 ppm NRDC 149 and 125 ppm pirimiphos ethyl [23505-41-1] was 100% lethal to the Biarra strain of Boophilus microplus. [on SciFinder (R)]
A01N. acaricide/ ectoparasite/ synergism/ NRDC149;/ organophosphorus/ insecticide/ synergism/ acaricide

342. Drew, Michael G. B., Lumley, James A., and Price, Nicholas R (1999). Predicting ecotoxicology of organophosphorous insecticides: successful parameter selection with the genetic function algorithm. *Quantitative Structure-Activity Relationships* 18: 573-583.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:55465
Chemical Abstracts Number: CAN 132:247234
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Phosphate group (atom charge; ecotoxicol. of organophosphorous insecticides prediction and successful parameter selection with the genetic function algorithm); Algorithm; Bond angle; Bond length; Conformation; Crystal structure; Ecotoxicity; Environmental pollution; Genetics; Partial least squares; QSAR; Regression analysis; Toxicity (ecotoxicol. of organophosphorous insecticides prediction and successful parameter selection with the genetic function algorithm); Least squares method (genetic partial; ecotoxicol. of organophosphorous insecticides prediction and successful parameter selection with the genetic function algorithm); Death (lethal concn.; ecotoxicol. of organophosphorous insecticides prediction and successful parameter selection with the genetic function algorithm); Insecticides (organophosphorus; ecotoxicol. of organophosphorous insecticides prediction and successful parameter selection with the genetic function algorithm)
CAS Registry Numbers: 55-38-9 (Fenthion); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methylparathion); 299-84-3 (Ronnel); 500-28-7 (Chlorothion); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2104-96-3 (Bromophos); 2463-84-5 (Dicapthon); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 3070-16-4 (Fenthion-S2145); 18181-70-9 (Iodofenphos); 29232-93-7 (Pyrimiphos methyl); 33576-92-0 (SV5); 38260-54-7 (Etrimfos); 114012-04-3 (Methylisocyanothion) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (ecotoxicol. of

organophosphorous insecticides prediction and successful parameter selection with the genetic function algorithm)
Citations: 1) Fukuto, T; Agr and Food Chemistry 1956, 4, 930
Citations: 1) Fukuto, T; J Econ Entomology 1962, 55, 340
Citations: 2) Relimpo, A; Z Naturforsch 1977, 32c, 760
Citations: 3) De Bruijn, J; Aquatic Toxicology 1993, 24, 257
Citations: 4) De Bruijn, J; Env Toxicol and Chem 1991, 10, 791
Citations: 5) Schuurmann, G; Env Toxicol and Chem 1990, 9, 417
Citations: 6) Chambers, J; Comp Biochem Physiol 1976, 55C, 77
Citations: 7) Takimoto, Y; Arch Environ Contam Toxicol 1984, 13, 579
Citations: 8) Takimoto, Y; Ecotoxicol Environ Saf 1987, 13, 104
Citations: 9) Corbitt, J; Biochemical Mode of Action of Pesticides 1974
Citations: 10) Cambridge Crystallographic Data Centre; Cambridge Structural Database System
Citations: 11) Molecular Simulations Inc; Quanta 1997
Citations: 12) Frisch, M; Gaussian94, Revision E.1 1995
Citations: 13) Molecular Simulations Inc; Cerius2 1997
Citations: 14) Oxford Molecular Ltd; Tsar V2.4
Citations: 15) Rogers, D; J Chem Inf Comput Sci 1994, 34, 854
Citations: 16) Dunn, W; Genetic algorithms in molecular modelling: Genetic partial least squares in QSAR 1996, 109
Citations: 17) Cramer, R; Quant Struc-Act Relat 1998, 7, 18
Citations: 18) Cramer, R; J Amer Chem Soc 1988, 110, 5959
Citations: 19) Schmetzer, S; J Comp Aided Mol Design 1997, 11, 278
Citations: 20) Topliss, J; J Med Chem 1979, 22(10), 1238
Citations: 21) Wold, S; Chemometric Methods in Molecular Design 1995, 2, 309
Citations: 22) Eriksson, L; Chemometrics and Intelligent Laboratory Systems 1996, 34, 1 QSARs have been developed for 20 organophosphates, using good exptl. data in the form of LC50 toxicity values towards guppy from previously published work. A large no. of steric, phys. and electronic descriptors have been calcd. After the removal of descriptors that were highly cross-correlated or correlated poorly with activity, the genetic algorithm was employed to select the optimum descriptors for use in multivariate regression. Best equation r2 and rcv2 values were 0.943 and 0.905 resp. Mol. field Anal. was also used in conjunction with the Genetic Function Approxn. (GFA) algorithm to obtain predictive equations, r2 and rcv2 values were 0.939 and 0.896 resp. However, when the data were randomized, results proved to be as good, (and in one case better) than using the correct exptl. values. For equations subsequently derived using the Genetic Partial Least Squares (G/PLS) technique (best r2 and rcv2 values being 0.943, 0.905 resp.), randomization gave worse answers than using the correct exptl. values. This work demonstrates the danger of using the powerful GFA technique to select from a large no. of parameters, but establishes that the G/PLS method is sufficiently robust to provide reliable results. [on SciFinder (R)] 0931-8771 ecotoxicity/ prediction/ organophosphorus/ insecticide/ genetic/ function/ algorithm

343. Drewes, J. E., Fox, P., and Nellor, M. H. (Efficiency and Sustainability of Soil-Aquifer Treatment for Indirect Potable Reuse of Reclaimed Water. *Schriftenr ver wasser boden lufthyg. 2000; 105:227-32. [Schriftenreihe des vereins fur wasser-, boden- und lufthygiene]: Schriftenr Ver Wasser Boden Lufthyg*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, HUMAN HEALTH.

ABSTRACT: An increasing number of municipalities are considering the indirect reuse of treated wastewater (recycled water) by groundwater recharge as a feasible option to augment potable water supplies. This planned approach offers several advantages compared to the conventional way of discharging effluents into surface waters, including the additional treatment afforded as the water percolates and co-mingles with groundwater (soil aquifer treatment). While groundwater recharge has been used in the United States (U.S.) for several decades and has been the subject of a number of studies, limitations in methodology and testing have prevented many within the

scientific and technical community from being able to fully address a number of complex public health questions related to organic chemicals, nitrogen and microorganisms. Ongoing research being conducted in Arizona and California is directed at reducing the uncertainties about the efficiency and sustainability of soil aquifer treatment for indirect potable reuse of recycled water.
MESH HEADINGS: Conservation of Natural Resources/*methods
MESH HEADINGS: Fresh Water/analysis/microbiology
MESH HEADINGS: Humans
MESH HEADINGS: Risk Factors
MESH HEADINGS: Water Microbiology
MESH HEADINGS: Water Pollutants, Chemical/analysis
MESH HEADINGS: Water Purification/*methods
MESH HEADINGS: Water Supply/*standards
LANGUAGE: eng

344. Driss, M. R. and Bouguerra, M. L (1996). Solid phase extraction of organophosphorus pesticides from water using capillary gas chromatography with thermionic specific detection. *International Journal of Environmental Analytical Chemistry* 65: 1-10.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:126897
Chemical Abstracts Number: CAN 126:190602
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus; solid phase extn. of organophosphorus pesticides from tap and surface water with capillary gas chromatog.); Environmental pollution (pesticide; detn. of organophosphorus pesticides in Tunisian surface and tap water by solid phase extn. and capillary gas chromatog.); Drinking waters; River waters (solid phase extn. of organophosphorus pesticides from water with C-18 bonded silica and subsequent capillary gas chromatog.); Extraction (solid-phase; solid phase extn. of organophosphorus pesticides from tap and surface water with C-18 bonded silica and subsequent capillary gas chromatog.)
CAS Registry Numbers: 7631-86-9 (Silica) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (C-18 bonded; solid phase extn. of organophosphorus pesticides from water with C-18 bonded silica and subsequent capillary gas chromatog.); 55-38-9 (Fenthion); 56-38-2 (Parathion-ethyl); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 311-45-5; 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 2642-71-9 (Azinphos-ethyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (detn. in drinking and surface water by solid phase extn. with C-18 bonded silica and capillary gas chromatog.); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (solid phase extn. of organophosphorus pesticides from water using capillary gas chromatog.) The extn. and enrichment of 16 organophosphorus pesticides (OPPs) were studied in Tunisian surface and tap waters as a part of fast and reliable method for monitoring these pesticides. This extn. was performed using C-18 bonded silica cartridges. Recovery depends on the polarity of elution solvent, pesticide levels, and the treated water vol. For a 250 mL vol. of spiked water at 0.4 mg/L, the recovery of the OPPs was 70-98% but dimethoate recovery was 52-60%. The limits of detection are 0.007-0.03 mg/L. The chromatog. behavior (resoln., relative retention etc.) of these pesticides on non polar CC (HP-101), slightly polar CC (SPB-5) and intermediate polar CC (SPB-608 and HP-1701) is discussed. Applications are reported for the detn. of parathion-Et and parathion-Me in Medjerda River. [on SciFinder (R)]
0306-7319 organophosphorus/ pesticides/ detn/ surface/ tap/ water;/ capillary/ GC/ organophosphorus/ pesticides/ detn;/ solid/ state/ extn/ organophosphorus/ pesticides/ water;/

water/ pollution/ pesticide/ detn

345. Driss, M. R., Hennion, M. C., and Bouguerra, M. L. (1993). Determination of Carbaryl and Some Organophosphorus Pesticides in Drinking Water Using on-Line Liquid Chromatographic Preconcentration Techniques. *J chromatogr* 639: 352-358.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Reversed-phase high-performance liquid chromatography (HPLC) was adapted for the determination of trace concentrations of carbaryl and seven organophosphorus pesticides in drinking water. Between 100 and 300 ml of water sample is passed through a 1.5-cm precolumn, packed with C18-bonded silica or styrene-divinylbenzene copolymer (PRP-1) sorbent at a flow-rate of 3 ml/min. The HPLC system is then switched to an acetonitrile-water gradient elution programme. The analytes that have been concentrated on the precolumn are eluted and separated on a 15-cm C18 analytical column and are determined by measuring their UV absorption at 254 nm. This wavelength was selected as the optimum for the simultaneous determination of these pesticides. The preconcentration yields of the examined solutes obtained with the two types of precolumn are almost identical. Band broadening is avoided by a suitable choice of the C18 precolumn and the analytical column. With 200 ml of tap water, the rec
MESH HEADINGS: BIOLOGY/METHODS
MESH HEADINGS: ISOTOPES
MESH HEADINGS: RADIATION
MESH HEADINGS: ECOLOGY
MESH HEADINGS: OCEANOGRAPHY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: COMPARATIVE STUDY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: ENVIRONMENTAL MONITORING
MESH HEADINGS: PUBLIC HEALTH
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS

MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Methods
KEYWORDS: Methods
KEYWORDS: Radiation-Radiation and Isotope Techniques
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Comparative Biochemistry
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Food Technology-General
KEYWORDS: Toxicology-General
KEYWORDS: Toxicology-Foods
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health-Public Health Laboratory Methods
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: eng

346. Dulak, K. and Jonas, F (1987). Determination of phosmet by high-performance liquid chromatography. *Journal of Chromatography* 396: 433-6.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1987:454022
Chemical Abstracts Number: CAN 107:54022
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
CAS Registry Numbers: 732-11-6 (Phosmet) Role: ANT (Analyte), ANST (Analytical study) (detn. of, by HPLC); 85-41-6 (Phthalimide); 118-29-6 (N-Hydroxymethylphthalimide); 17564-64-6 (N-Chloromethylphthalimide) Role: BIOL (Biological study) (phosmet byproduct, detn. of, by HPLC) Phosmet and its byproducts were detd. by HPLC using 8% THF in hexane as the mobile phase, diphenylamine as the internal std. and 280 nm as the detection wavelength. The detection limit was 0.97-4.82 mg/mL and the reproducibility was 83.31%. [on SciFinder (R)] 0021-9673
HPLC/ phosmet

347. Dunbabin, J. S. and Bowmer, K. H. (1992). Potential Use of Constructed Wetlands for Treatment of Industrial Wastewaters Containing Metals. *Sci total environ* 111: 151-168.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Natural wetlands are effective sinks for metals. Processes of metal removal and mobilisation include sedimentation, adsorption, complexation, uptake by plants, and microbially-mediated reactions including oxidation and reduction. Recently, wetlands for wastewater purification have been constructed for treatment of sewage and urban runoff, and also show good potential for concentrating metals from industrial wastewaters and mine seepage. Constructed wetlands include open water pond-like systems, usually sediment-lined, containing floating, submerged and emergent plants. Another design is

based on the use of permeable substrata such as gravel commonly planted with emergent wetland plants such as Typha, Schoenoplectus, Phragmites or Cyperus. The wastewater percolates through the gravel, giving better access to the plant roots and rhizomes and exposure to oxygenated conditions in the rhizosphere. Hydraulic design appears to be critical to the performance of these systems, w
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: MINERALS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: ELECTRON TRANSPORT
MESH HEADINGS: ENERGY METABOLISM
MESH HEADINGS: OXIDATIVE PHOSPHORYLATION
MESH HEADINGS: MINERALS/METABOLISM
MESH HEADINGS: MICROBIOLOGY
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: SOIL
MESH HEADINGS: MICROBIOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: GRASSES
MESH HEADINGS: PLANTS
KEYWORDS: General Biology-Conservation
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Biophysics-Bioenergetics: Electron Transport and Oxidative Phosphorylation KW - Metabolism-Minerals
KEYWORDS: Microorganisms
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Plant Physiology
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Microorganisms-Unspecified
KEYWORDS: Cyperaceae
KEYWORDS: Gramineae
KEYWORDS: Typhaceae
LANGUAGE: eng

348. Dunn, Allison M (2004). A relative risk ranking of pesticides used in Prince Edward Island.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:426728
Chemical Abstracts Number: CAN 141:326966
Section Code: 4-4
Section Title: Toxicology
Document Type: Report; General Review
International Standard Document Number: 0707-9796
Language: written in English.
Index Terms: Carcinogens; Daphnia magna; Environmental pollution; Health hazard; Human; Pesticides; Risk assessment; Simulation and Modeling; Toxicity (relative risk ranking of pesticides used in Prince Edward Island)
CAS Registry Numbers: 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 76-06-2 (Chloropicrin); 85-

00-7 (Diquat dibromide); 86-50-0 (Azinphosmethyl); 94-74-6 (MCPA); 94-75-7 (2,4-D); 115-29-7 (Endosulfan); 137-26-8 (Thiram); 148-79-8 (Thiabendazole); 330-55-2 (Linuron); 542-75-6 (1,3-Dichloropropene); 732-11-6 (Phosmet); 1071-83-6 (Glyphosate); 1563-66-2 (Carbofuran); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 3060-89-7 (Metobromuron); 4685-14-7 (Paraquat); 5234-68-4 (Carbathiin); 8018-01-7 (Mancozeb); 9006-42-2 (Metiram); 10265-92-6 (Methamidophos); 21087-64-9 (Metribuzin); 23564-05-8 (Thiophanatemethyl); 51235-04-2 (Hexazinone); 60207-90-1 (Propiconazole); 70630-17-0 (Metalaxyl-M); 79241-46-6; 122931-48-0 (Rimsulfuron); 138261-41-3 (Imidacloprid) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (relative risk ranking of pesticides used in Prince Edward Island)
Citations: Bintein, S; SAR QSAR Environ Res 1993, 1, 29
Citations: Center for Clean Products and Clean Technologies (CCPCT); Comparative Evaluation of Chemical Ranking and Scoring Methodologies 1994
Citations: Environment Canada; A Risk Ranking of National Pollutant Release Inventory Substances in the Atlantic Provinces 2000, Environmental Surveillance Report EPS-5-AR-00-3
Citations: Environment Canada; Guidance Manual for the Categorization of Organic and Inorganic Substances on Canada's Domestic Substances List 2003
Citations: Anon; Hazardous Substances Data Bank, http://toxnet.nlm.nih.gov/ 2003
Citations: Anon; http://www.gov.pe.ca/infopei/Environment_and_Land/Water_Resources/Fish_Kill_Investigations_1994-2000/ 2004
Citations: International Agency for Research on Cancer; http://www.iarc.fr/ 2003
Citations: International Programme on Chemical Safety; Joint Meeting on Pesticide Residues (JMPR), http://www.inchem.org/ 2003
Citations: Mackay, D; Multimedia Environmental Models: The Fugacity Approach 1991
Citations: Mackay, D; Physical Chemical Properties and Environmental Fate Handbook 2000
Citations: Mutch, J; Relative Ranking of Acute Pesticide Risks to Fish 1999, AGDEX 607/99-02
Citations: Mutch, J; Proceedings of 27th Annual Aquatic Toxicity Workshop 2000, Canadian Technical Report of Fisheries and Aquatic Sciences 2331
Citations: Ritter, L; Cancer 1997, 80, 2019
Citations: Snyder, E; Environ Sci Poll Res 2000, 7(1), 52
Citations: Swanson, M; Environmental Toxicology and Chemistry 1997, 16(2), 372
Citations: Anon; Chemical Ranking and Scoring: Guidelines for Relative Assessments of Chemicals 1997
Citations: Swanson; Personal communication 2000
Citations: Tomlin, C; A World Compendium: The Pesticide Manual, 12th Edition 2000, 1250
Citations: Anon; USDA Pesticide Properties Database, http://www.arsusda.gov/acsl/ppdb.html 2003
Citations: Anon; Federal Register 1995, 15366
Citations: Anon; US EPA ECOTOX Database, http://www.epa.gov/ecotox/ 2003
Citations: Anon; US EPA Exposure Tools and Software: EPI Suite v 3.10, http://www.epa.gov/oppt/exposure/docs/episuitedl.htm 2003
Citations: US EPA Integrated Risk Information System; http://www.epa.gov/iris/ 2003
Citations: Anon; US EPA's Reregistration Eligibility Decision (RED) documents, http://www.epa.gov/pesticides/reregistration/ 2003 Establishing priorities for regulatory and scientific assessments of pesticides is difficult given the large no. of registered pesticide products and varied use patterns of each product. According to the general paradigm of \"Risk = Toxicity * Exposure\", a relative risk ranking of agricultural pesticides was developed using a modified Chem. Hazard and Evaluation for Management Strategies (CHEMS) model. Release-weighting factors were derived using pesticide sales information. Factors for each active in each media were detd. on a scale of 1 to 10 relative to the largest pesticide release in each resp. media. A risk score was then tabulated by multiplying the sum of release-weighted toxicity endpoints (i.e. acute oral LD50, acute inhalation LC50, carcinogenicity rating, no obsd. adverse affect level, acute fish LC50, acute Daphnia EC50) by the sum of weighted exposure factors (i.e. soil half-life, log BCF). While the model makes use of toxicity and exposure data, the risk ranking produced does not represent a risk assessment. Rather, the results from CHEMS should be viewed as a quant. risk

ranking used to prioritize substances for future risk assessment and management activities. Hazard and exposure data were collected for a subset of 31 active ingredients, representing 94% of Prince Edward Island's 2001 pesticide sales by mass. According to the resultant risk scores, the highest ranked substances were chlorothalonil, diquat dibromide, mancozeb, metiram, and carbofuran. Limitations included the use of pesticide sales data as a proxy for release and the reliance on modeled data for log BCF and detg. environmental partitioning. In spite of its limitations, the CHEMS risk ranking scheme provides a useful tool for prioritizing pesticides of concern, for future action. [on SciFinder (R)] risk/ ranking/ pesticide/ Prince/ Edward/ Island;/ review/ risk/ ranking/ pesticide/ Prince/ Edward/ Island

349. Durig, J. R., Sullivan, J. F., Little, T. S., and Cradock, Stephen (1984). Low resolution microwave, infrared and Raman spectra, conformational stability, and vibrational assignment of isopropylisothiocyanate. *Journal of Molecular Structure* 118: 103-117.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The low resolution microwave spectrum of isopropylisothiocyanate, (CH32CHNCS, has been recorded from 18.0 to 39.0 GHz. From the spacing of the central transitions for the near prolate symmetric top it is shown that the value of 2490 MHz for B+C is consistent with the skew conformer with a C---N=C angle of [approximate] 145[degree sign] where the NCS moiety is eclipsing one of the methyl groups, although the trans conformer where the lone pair of electrons on the nitrogen is eclipsing the hydrogen atom cannot be completely ruled out. The infrared and Raman (3200--30 cm-1 spectra of gaseous and solid isopropylisothiocyanate have been recorded. Also, the infrared spectrum of the sample isolated in a nitrogen matrix at 10 K has been recorded from 3200 to 300 cm-1. Additionally, the Raman spectrum of the liquid has been obtained and qualitative depolarization values measured. Based on a comparison of the vibrational data for the fluid and solid phases it has been determined that there is little evidence for the presence of a second conformer at ambient temperature and there was no evidence for the presence of two conformers in the matrix isolated sample. A complete vibrational analysis, based on infrared band contours, depolarization values and group frequencies, is proposed. The two methyl torsions were observed in the Raman spectrum of the solid at 285 and 250 cm-1 and from these data the barrier to internal rotation was calculated to be 1640 cm-1 (4.69 kcal mol-1). Additionally, a very weak B-type band centered at [approximate]45 cm-1 was observed in the infrared spectrum of the gas which probably arises from the asymmetric torsion of the NCS moiety. These results are compared to similar quantities for some corresponding molecules.
http://www.sciencedirect.com/science/article/B6TGS-44FFP33-TK/2/78de6282e8e39c7223052c39bf083482

350. Dutta, S. K., Nema, V. K., and Bhardwaj, R. K. (1988). Physical properties of gram. *Journal of Agricultural Engineering Research* 39: 259-268.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOX DATA.

The dependence of physical properties of gram on moisture content was determined. The best approximate shape was found to be a prolate spheroid. At 10[middle dot]9% moisture content d.b., the measurements yielded an average 1000 grain weight of 0[middle dot]173 kg, a mean surface area of 133[middle dot]4 mm2, and sphericity and roundness of 74% and 70% respectively. In the moisture range from 9[middle dot]64 to 31[middle dot]0% d.b., studies on rewetted gram showed that the bulk density changed from 780 to 708 kg/m3, kernel density from 1311 to 1257 kg/m3; porosity from 40[middle dot]5 to 43[middle dot]7% and static coefficient of friction from 0[middle dot]384 to 0[middle dot]651 over surfaces of different materials. The angle of repose was observed to change from 25[middle dot]5[degree sign] to 30[middle dot]4[degree sign] in the moisture range from 8[middle dot]62 to 17[middle dot]6% d.b.
http://www.sciencedirect.com/science/article/B6WH1-494T6NP-JW/2/32778207ed4f58c5d960af09390e5a7a

351. Earnshaw, W. C., King, J., Harrison, S. C., and Eiserling, F. A. (1978). The structural organization of DNA packaged within the heads of T4 wild-type, isometric and giant bacteriophages. *Cell* 14: 559-568.

Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

We present electron microscopic and X-ray diffraction evidence concerning the structural organization of condensed DNA within a series of T4 bacteriophage with the following head morphologies: prolate (wild-type), isometric and giant (with greatly increased axial ratio). In all cases, the DNA helix segments are locally parallel and 27 A apart. For the giant particles, we show that the DNA forms a large coil whose axis is perpendicular to the axis of the phage tail. This evidence, combined with previous results from a series of isometric bacteriophages (), leads to a model for the organization of condensed DNA that may apply to most dsDNA-containing bacteriophages. http://www.sciencedirect.com/science/article/B6WSN-4C7WBN8-D/2/4a5a140622308b4d3fb1f9b3ed0a05b7

352. Earnshaw, William C., King, Jonathan, and Eiserling, Frederick A. (1978). The size of the bacteriophage T4 head in solution with comments about the dimension of virus particles as visualized by electron microscopy. *Journal of Molecular Biology* 122: 247-253.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

We report X-ray diffraction results permitting calculation of the radius of the bacteriophage T4 head in solution. Isometric headed mutant particles, consisting of the two hemispherical caps of wild-type T4, were found to be spheres of radius 425 A. Giant headed particles, an amplification of the extra capsomeres which give the T4 head its prolate shape, were found to be cylinders of radius 427 A. We use these and other small-angle X-ray diffraction results in a quantitative discussion of the distortion artefacts caused by a number of electron microscope specimen preparation techniques. http://www.sciencedirect.com/science/article/B6WK7-4DMP383-D/2/56242189fcb08c7cfb8722d233633276

353. Ebing, W. (Communications From the Federal Biological Institute for Agriculture and Forestry Berlin-Dahlem No. 236. Gas Chromatography of Pesticides Tabular Literature Abstracts Series Xv. *Ebing, w. Mitteilungen aus der biologischen bundesanstalt fuer land- und forstwirtschaft berlin-dahlem, heft 236. Gaschromatographie der pflanzenschutzmittel: tabellarische literaturreferate: xv; (communications from the federal biological institute for agriculture and forestry berlin-dahlem, no. 236. Gas chromatography of pesticides: tabular literature abstracts: series xv). 30p. Kommissionsverlag paul parey: berlin, west germany. Illus. Paper. Isbn 3-489-23600-9.; 0 (0). 1987. 30p. Ab - biosis copyright: biol abs. Rrm book.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Pest Control
LANGUAGE: ger

354. Edmiston, S. and Maddy, K. T. (1987). Summary of Illnesses and Injuries Reported in California Usa by Physicians in 1986 as Potentially Related to Pesticides. *Vet hum toxicol* 29: 391-397.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM HUMAN OCCUPATIONAL EXPOSURE
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING

MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: PUBLIC HEALTH ADMINISTRATION
MESH HEADINGS: STATISTICS
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: MORBIDITY
MESH HEADINGS: NEOPLASMS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health-Public Health Administration and Statistics
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Public Health: Epidemiology-Organic Diseases and Neoplasms
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

355. Edwards, M. and Benjamin, M. M. (1992). Transformation of Nom by Ozone and Its Effect on Iron and Aluminum Solubility. *Am water works assoc j* 84: 56-66.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Ozonation may alter the functional group composition, molecular weight (MW), and behavior of natural organic matter (NOM) in reactions of significance for drinking water treatment. In this work, the transformation of NOM by ozone was monitored by acid-base titrations, ion chromatography, and gel-permeation chromatography (GPC). The results led to an improved understanding of how ozonation affects NOM and how ozonated NOM affects the solubility of freshly precipitated iron and aluminum hydroxides. Organic acidity increased substantially during ozonation, and most of the newly produced organic acid groups were ionized at pH 4.0. Of 27 simple organic acids assayed in ozonated NOM, oxalic acid was dominant. The concentration of oxalate produced upon ozonation increased with ozone dose, solution pH, and Fe(II) concentration. Ozonation of NOM destroyed compounds of high and low apparent MW as determined by GPC and increased the concentration of compounds with intermediate appa
MESH HEADINGS: GASES
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
KEYWORDS: Biochemistry-Gases (1970-)
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Biophysics-Molecular Properties and Macromolecules

KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
LANGUAGE: eng

356. Edwards, W. M. and Glass, B. L. (1971). Methoxychlor and 2,4,5-T in Lysimeter Percolation and Runoff Water. *Bull. Environ. Contam. Toxicol. Vol. 6, no. 1, pp. 81-84. 1971.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Abstract: Trichlorophenoxyacetic acid (2,4,5-T), a biodegradeable chlorinated hydrocarbon herbicide and Methoxychlor (2,2-bis(p-methoxyphenyl)-1,1,1-trichloroethane) an insecticide, were used in percolation and runoff studies from a field lysimeter at the North Appalachian Experimental Watershed, Coshocton, Ohio. The predominant cover crops were poverty grass and broad leafed weeds growing on silt loam over sandstone bedrock. Runoff and percolation were monitored for 14 months following an application of 11.2 kg/ha 2,4,5-T and 22.4 kg/ha Methoxychlor. Runoff during the test period carried 0.05 percent of the applied 2,4,5-T with half the loss occurring within 32 days. More than 25 percent of the total loss occurred in storm water 21 days after application when the conc reached 380 mu g/litre. Total Methoxychlor removed by runoff was 0.004 percent of the application with low removal rates during the 1st 3 months. Percolate water intercepted at a depth of 2.44 m contained no Methoxychlor but trace amounts of 2,4,5-T.
Records keyed from 1971 ASFA printed journals.
Language: English
Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: Q5 01501 General
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality

357. Egli, M. and Fitze, P. (1995). The Influence of Increased Nh4+ Deposition Rates on Aluminium Chemistry in the Percolate of Acid Soils. *European journal of soil science* 46: 439-447.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The influence of different NH4+ loads on aluminium speciation in percolating water was studied on acid luvisols with similar soil-pH values but with different soil adsorption surface characteristics. All of the applied NH4+ was nitrified and therefore led to proton production. Thus, Al displacement in the percolate was increased. The extent of this enhanced translocation was found to be chiefly a function of the amount of exchangeable base cations which buffered the protons produced by nitrification. The proportion of the different Al species in the percolate was altered at large NH4+ loads. Very large Al3+ concentrations eliminated Al species bound to dissolved organic matter and particles, presumably because of flocculation and precipitation of organic ligands. Furthermore, increased NO3- and Al3+ concentrations enhanced the desorption of F- giving rise to an additional increase in Al displacement by the formation of Al fluoro complexes in the aqueous phase.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
LANGUAGE: eng

358. Ekenberg, M., Martander, H., and Welander, T. (Biological Reduction of Hexavalent Chromium--a Field

Study. *Water environ res. 2005 jul-aug; 77(4):425-8. [Water environment research : a research publication of the water environment federation]: Water Environ Res.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, BACTERIA.

ABSTRACT: When ferrochromium is produced at Vargön Alloys AB (Vargön, Sweden), an offgas dust is generated as a byproduct. A leachate that contains hexavalent chromium (Cr6+) is formed when rainwater percolates through the dust deposit. In this study, Cr6+ in the leachate was reduced to trivalent chromium (Cr3+) by biological treatment in a biofilm process operated under anaerobic conditions. The reactor volume was 26 m3 and it was filled with 16 m3 plastic packing. Acetic acid was added as an electron donor. The Cr6+ was reduced from 10 to 20 mg/L to below 0.03 mg/L when the reactor was operated at a hydraulic retention time of 11 hours. The reduction activity in the process gradually decreased as the water temperature dropped below 10 degrees C.
MESH HEADINGS: Bacteria, Anaerobic/*metabolism
MESH HEADINGS: Biofilms
MESH HEADINGS: *Bioreactors
MESH HEADINGS: Carcinogens, Environmental/*metabolism
MESH HEADINGS: Chromium/*metabolism
MESH HEADINGS: Oxidation-Reduction
MESH HEADINGS: Temperature
MESH HEADINGS: Waste Disposal, Fluid/*methods
MESH HEADINGS: Water Microbiology
LANGUAGE: eng

359. El Gharmali, A., Rada, A., El Adnani, M., Tahlil, N., El Meray, M., and Nejmeddine, A. ([Impact of Acid Mining Drainage on the Quality of Superficial Waters and Sediments in the Marrakesh Region, Morocco]. *Environ technol. 2004, dec; 25(12):1431-42. [Environmental technology]: Environ Technol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: The aim of the present study is the evaluation of the effects of the acid drainage of three abandoned mining sites: SB-Othmane, Kettara and Draâ-sfar, on water and sediment quality of the Tensift River and its two temporary tributaries, the Kettara and El-Coudia Oueds. These mining sites located near Marrakesh contain mining residues abandoned for ten to twenty years. They are presently in an agricultural region of the Haouz district. In each site, these uncontrolled mining residues present a high level of metallic sulphide and generate, during rainy periods, leaching products which have physical and chemical characteristics of acid mine drainage (AMD). These percolates display an acidic pH ranging from 2.5 to 5.2, a high electric conductivity, large amounts of sulphate and heavy metals, especially under dissolved form (e.g. Cd: 17.34 mg l(-1); Fe: 1734 mg l(-1); Zn: 3935 mg l(-1)). Except for Pb, the free ionic form is the most abundant metallic form, as showed by calculations using the speciation GEOCHEM program. The analysis of water and sediments of the surrounding superficial aquatic ecosystems shows a modification of water chemical facies and an enrichment in heavy metals, mainly under the solid phase for Fe, Pb, Cu, Co, Cr and Ni, and under dissolved fraction for Cd and Zn. The dissolved fraction of these metals is dominated by the free ionic form, considered as available for organisms. Furthermore, sediments contain important quantities of heavy metals (Pb: 1450 microg g(-1), Zn: 1562 microg g(-1)) with an available fraction which is higher than 40% for the Cd and Zn. The abundance of trace elements (free ionic and available forms) in water and sediment presents a durable risk of their transfer to food chains.
MESH HEADINGS: Acids
MESH HEADINGS: *Environmental Monitoring
MESH HEADINGS: Geologic Sediments/analysis
MESH HEADINGS: *Industrial Waste
MESH HEADINGS: Metals, Heavy/analysis
MESH HEADINGS: *Mining
MESH HEADINGS: Morocco

MESH HEADINGS: Rivers/chemistry
MESH HEADINGS: Sulfates/analysis
MESH HEADINGS: Water Pollutants, Chemical/*analysis
LANGUAGE: fre
TRANSLIT/VERNAC TITLE: Impact du drainage acide minier sur la qualite des eaux de surface et des sediments dans la region de Marrakech, Maroc.

360. El Kheir, Y. M. and El Tohami, M. S. (Investigation of Molluscicidal Activity of Certain Sudanese Plants Used in Folk-Medicine. Ii. Molluscicidal Activity of the Different Morphological Organs of Gnidia Kraussiana Meisn &Quot;Abu Gotna&Quot; Family Thymelaeaceae. *J trop med hyg. 1979 nov-dec; 82(11-12):242-7. [The journal of tropical medicine and hygiene]: J Trop Med Hyg*. Chem Codes: Chemical of Concern: PSM Rejection Code: BIOLOGICAL TOXICANT.

ABSTRACT: The molluscicidal activity of Gnidia kraussiana Meisn leaf, stem and root was studied. Each morphological part was extracted with cold and boiling water, different organic solvent and successively with organic solvents of increasing polarity. Throughout it was found that the extracts of the root were the most potent followed by the stem. Boiling water extracts were more potent than cold water extracts, while in case of extraction with different organic solvents, the petroleum ether extracts of the root and stem were the most potent, while for the leaf, the ethanolic extract was the most potent. On successive extraction, the petroleum ether extracts of all organs were the most potent. Saponification of the petroleum ether extract of the root was carried out and the activity of the different fractions were tested. Different extract fractions were obtained from the 80 per cent ethanolic percolate of the root. Some of the physical properties and the phytochemical screening of the successive extractives of the three organs were studied.
MESH HEADINGS: Animals
MESH HEADINGS: *Bulinus/drug effects
MESH HEADINGS: Ethanol
MESH HEADINGS: Ethers
MESH HEADINGS: Medicine, Traditional
MESH HEADINGS: *Molluscacides
MESH HEADINGS: Plant Extracts/*toxicity
MESH HEADINGS: *Plants, Medicinal/anatomy &amp
MESH HEADINGS: histology
MESH HEADINGS: Sudan
LANGUAGE: eng

361. Eldred, D. V. and Jurs, P. C (1999). Prediction of acute mammalian toxicity of organophosphorus pesticide compounds from molecular structure. *SAR and QSAR in Environmental Research* 10: 75-99. Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:594327
Chemical Abstracts Number: CAN 131:318756
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Simulation and Modeling (neural network; prediction of acute toxicity of organophosphorus pesticide compds. from mol. structure); Pesticides (organophosphorus; prediction of acute toxicity of organophosphorus pesticide compds. from mol. structure); QSAR; Toxicity (prediction of acute toxicity of organophosphorus pesticide compds. from mol. structure)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 57-39-6 (Metepa); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 78-34-2 (Dioxathion); 78-48-8 (Def); 78-57-9 (Menazon); 86-50-0 (Azinphos-

methyl); 97-17-6 (Dichlofenthion); 107-49-3 (Tepp); 115-90-2 (Fensulfothion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 141-66-2 (Bidrin); 152-16-9 (Schradan); 297-97-2 (Thionazin); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 299-86-5 (Ruelene); 300-76-5 (Naled); 327-98-0; 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinfos); 500-28-7 (Chlorthion); 545-55-1 (Tepa); 563-12-2 (Ethion); 680-31-9 (Hempa); 732-11-6 (Imidan); 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 953-17-3 (Methyl trithion); 2104-64-5 (Epn); 2104-96-3 (Bromophos); 2463-84-5 (Dicapthon); 2782-70-9 (Sd-7438); 2921-88-2 (Dursban); 3383-96-8 (Abate); 6923-22-4 (Azodrin); 7700-17-6 (Ciodrin); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifor); 13171-21-6 (Phosphamidon); 14816-18-3 (Phoxim); 17040-19-6; 21609-90-5 (Leptophos); 22248-79-9 (Gardona); 30560-19-1 (Acephate) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study)   (prediction of acute toxicity of organophosphorus pesticide compds. from mol. structure)

Citations: 1) Sun, K; Environ Toxicol Chem 1995, 14, 1745
Citations: 2) Jackel, H; Quant Struct-Act Relat 1991, 10, 198
Citations: 3) Cronin, M; Quant Struct-Act Relat 1995, 14, 117
Citations: 4) Environmental Protection Agency (EPA); Background on acute toxicity testing for chemical safety 1984
Citations: 5) Ecobichon, D; Casarett and Doull's Toxicology, 5th Edn 1996, 643
Citations: 6) Fest, C; The Chemistry of Organophosphorus Pesticides - Reactivity, Synthesis, Mode of Action, Toxicology 1973, 25
Citations: 7) O'Brien, R; Insecticides: Action and Metabolism 1967, 32
Citations: 8) Murphy, S; Casarett and Doull's Toxicology, 3rd Edn 1986, 518
Citations: 9) Sidell, F; Chemical Warfare Agents 1992, 155
Citations: 10) Wessel, M; J Chem Inf Comp Sci 1995, 5, 841
Citations: 11) Mitchell, B; J Chem Inf Comp Sci 1996, 1, 58
Citations: 12) Wessel, M; Anal Chem 1994, 66, 2480
Citations: 13) Schultz, T; Sci Total Environ 1991, 109/110, 569
Citations: 14) Harada, A; Environ Toxicol Chem 1992, 11, 973
Citations: 15) Nendza, M; Xenobiotica 1991, 21, 147
Citations: 16) Schultz, T; Bull Environ Contam Toxicol 1989, 43, 564
Citations: 17) Furay, V; Bull Environ Contam Toxicol 1995, 54, 36
Citations: 18) Newsom, L; Sci Total Environ 1991, 109/110, 537
Citations: 19) Arnold, L; Chemosphere 1990, 21, 183
Citations: 20) Gaines, T; Toxicol Appl Pharmacol 1960, 2, 88
Citations: 21) Gaines, T; Toxicol Appl Pharmacol 1969, 14, 515
Citations: 22) Gaines, T; Fund Appl Toxicol 1986, 7, 299
Citations: 23) Lieberman, H; Drug Chem Toxicol 1983, 6, 111
Citations: 25) Stewart, J; MOPAC 6.0. Quantum Chemistry Program Exchange
Citations: 26) Stewart, J; J Comput-Aided Mol Des 1990, 4, 1
Citations: 27) Kier, L; Quant Struct-Act Relat Pharmacol Chem Biol 1985, 4, 109
Citations: 28) Kier, L; Molecular Connectivity in Structure-Activity Analysis 1986, 18
Citations: 29) Stanton, D; Anal Chem 1990, 62, 2323
Citations: 30) Topliss, J; J Med Chem 1979, 22, 1238
Citations: 31) Russell, C; Anal Chem 1992, 64, 1350
Citations: 32) Sutter, J; Data Handling in Science and Technology (Vol 15) 1995
Citations: 33) Johnson, S; Computer Assisted Lead Finding and Optimization 1997, 31
Citations: 34) Xu, L; Environ Toxicol Chem 1994, 13, 841
Citations: 35) Schuurmann, G; J Environ Sci Health 1993, A28, 899
Citations: 36) Schuurmann, G; Environ Toxicol Chem 1990, 9, 417
Citations: 37) Juric', A; J Math Chem 1992, 11, 179
Citations: 38) Schlick, T; Reviews in Computational Chemistry 1992, 1
Citations: 39) Luke, B; J Chem Inf Comput Sci 1994, 34, 1279
Citations: 40) Wessel, M; PhD Dissertation, Pennsylvania State University 1996, 45
Citations: 41) Stuper, A; Computer Assisted Studies of Chemical Structure and Biological Function 1979, 220

Citations: 42) Jurs, P; Computer-Assisted Drug Design 1979, 103
Citations: 43) Belsey, D; Regression Diagnostics, Identifying Influential Data and Sources of Collinearity 1980, 6
Citations: 44) Livingstone, D; J Med Chem 1993, 36, 1295
Citations: 45) Xu, L; Environ Toxic Chem 1994, 13, 841
Citations: 46) Goldstien, H; Classical Mechanics 1950, 144
Citations: 47) Stouch, T; J Chem Inf Comp Sci 1986, 26, 4
Citations: 48) Rohrbaugh, R; Anal Chem 1987, 59, 1048
Citations: 49) Mitchell, B; J Chem Inf Comp Sci 1998, 38, 200
Citations: 50) Cao, C; Huaxue Tongbau 1996, 22, 1238
Citations: 51) Woo, Y; J Environ Sci Health. Part C: Environ Carcinogenesis and Ecotoxicology Rev 1996, C14, 1 A quant. structure-activity relationship (QSAR) investigation was done for the acute oral mammalian toxicity (LD50) of a set of 54 organophosphorus pesticide compds. The compds. were represented with calcd. mol. structure descriptors, which encoded their topol., electronic, and geometrical features. Feature selection was done with a genetic algorithm to find subsets of descriptors that would support a high quality computational neural network (CNN) model to link the structural descriptors to the - log(mmol/kg) values for the compds. The best seven-descriptor non-linear CNN model found had an rms error of 0.22 log units for the training set compds. and 0.25 log units for the prediction set compds. [on SciFinder (R)] 1062-936X
toxicity/ organophosphorus/ pesticide/ structure

362. Eller, Konstantin I. and Lehotay, Steven J (1997). Evaluation of hydromatrix and magnesium sulfate drying agents for supercritical fluid extraction of multiple pesticides in produce. *Analyst (Cambridge, United Kingdom)* 122: 429-435.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:343127
Chemical Abstracts Number: CAN 127:108144
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Apple; Carrot; Drying agents; Fruit; Humidity; Orange; Pea; Pesticides; Vegetable (evaluation of hydromatrix and magnesium sulfate drying agents for supercrit. fluid extn. of multiple pesticides in produce); Bean (green; evaluation of hydromatrix and magnesium sulfate drying agents for supercrit. fluid extn. of multiple pesticides in produce); Extraction (supercrit.; evaluation of hydromatrix and magnesium sulfate drying agents for supercrit. fluid extn. of multiple pesticides in produce)
CAS Registry Numbers: 50-29-3 (DDT); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-54-8 (DDD); 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 85-40-5 (Tetrahydrophthalimide); 86-50-0 (Azinphos-methyl); 90-43-7 (o-Phenylphenol); 99-30-9 (Dichloran); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 141-66-2 (Dicrotophos); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 330-55-2 (Linuron); 333-41-5 (Diazinon); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 709-98-8; 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1861-32-1 (Dacthal); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2497-06-5 (Disulfoton sulfone); 2921-88-2 (Chlorpyrifos); 3424-82-6; 5103-71-9 (cis-Chlordane); 5103-73-1 (cis-Nonachlor); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 15972-60-8 (Alachlor); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 30560-19-1 (Acephate); 33213-65-9 (Endosulfan II); 36734-19-7

(Iprodione); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 66230-04-4 (Esfenvalerate); 68359-37-5 (Cyfluthrin); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), BOC (Biological occurrence), BSU (Biological study, unclassified), PRP (Properties), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence) (evaluation of hydromatrix and magnesium sulfate drying agents for supercrit. fluid extn. of multiple pesticides in produce); 7487-88-9 (Magnesium sulfate); 61790-53-2 (Hydromatrix) Role: BSU (Biological study, unclassified), BIOL (Biological study) (evaluation of hydromatrix and magnesium sulfate drying agents for supercrit. fluid extn. of multiple pesticides in produce)
Citations: 1) Hopper, M; J Assoc Off Anal Chem 1991, 74, 661
Citations: 2) Nishikawa, Y; Anal Sci 1991, 7, 567
Citations: 3) Thomson, C; Anal Chem 1992, 64, 848
Citations: 4) King, J; J Chromatogr Sci 1993, 31, 1
Citations: 5) Wigfield, Y; J Agric Food Chem 1993, 41, 84
Citations: 6) Howard, A; J Chromatogr Sci 1993, 31, 323
Citations: 7) King, J; J AOAC Int 1993, 76, 857
Citations: 8) Skopec, Z; J Chromatogr Sci 1993, 31, 445
Citations: 9) Aharonson, N; J Agric Food Chem 1994, 42, 2817
Citations: 10) Lehotay, S; J AOAC Int 1995, 78, 445
Citations: 11) Lehotay, S; J AOAC Int 1995, 78, 821
Citations: 12) Lehotay, S; J AOAC Int 1995, 78, 831
Citations: 13) Valverde-Garcia, A; J AOAC Int 1995, 78, 867
Citations: 14) Valverde-Garcia, A; J Agric Food Chem 1996, 44, 1780
Citations: 15) Campbell, R; J Microcolumn Sep 1989, 1, 302
Citations: 16) Luke, M; Anal Methods Pestic Plant Growth Regul 1986, 15, 161
Citations: 17) Lee, S; Fresenius' J Anal Chem 1991, 339, 376
Citations: 18) Cairns, T; Rapid Commun Mass Spectrom 1993, 7, 1070
Citations: 19) Langenfeld, J; Anal Chem 1994, 66, 909
Citations: 20) Mulcahey, L; Anal Chem 1992, 64, 2352
Citations: 21) Howard, A; J High Res Chromatogr 1993, 16, 39
Citations: 22) Hawthorne, S; Anal Chem 1992, 64, 405
Citations: 23) Field, J; Anal Chem 1992, 64, 3161
Citations: 24) Hillmann, R; J High Res Chromatogr 1994, 17, 350
Citations: 25) Chatfield, S; Anal Chem 1995, 67, 945
Citations: 26) Fahmy, T; Anal Chem 1993, 65, 1462
Citations: 27) Burford, M; J Chromatogr A 1993, 657, 413
Citations: 28) Agricultural Marketing Service; Pesticide Data Program (PDP) Summary of 1994 Data 1996
Citations: 29) Erney, D; J Chromatogr 1993, 638, 57
Citations: 30) Kuk, M; Chemical Engineering at Supercritical Conditions 1983, 101
Citations: 31) Oostdyk, T; J Chromatogr Sci 1993, 31, 177
Citations: 32) Dean, J; Lange's Handbook of Chemistry, 13th edn 1985, 4
Citations: 33) Lehotay, S; J Chromatogr A, in the press
Citations: 34) Burford, M; J, Anal Chem 1993, 65, 1497
Citations: 35) Camel, V; J Chromatogr A 1995, 693, 101 The simultaneous extn. of relatively polar and nonpolar pesticides has been problematic in multiresidue anal. using supercrit. fluid extn. (SFE) with carbon dioxide. In fruit and vegetable samples, which typically contain 80-95% water, moisture acts to increase SFE recoveries of many polar pesticides, but a drying agent should be used to control water in SFE. Hydromatrix, a prevalent drying agent, has many desirable characteristics, but it reduces recovery of certain important pesticides, such as methamidophos, acephate, and omethoate. $MgSO_4$ has been shown previously to be applicable for the extn. of methamidophos and 6 other pesticides, but $MgSO_4$ has practical disadvantages in its use. Properties and SFE results with the individual drying agents and their combination were evaluated. Simultaneous recoveries for polar and nonpolar pesticides were achieved for 71 pesticides fortified in apple using a mixt. of 2 + 1 + 2 $MgSO_4.H_2O$-Hydromatrix-sample for extn. The advantages of each drying agent were maintained by their combination. The anal. of real

samples, however, showed that more study was needed to improve recoveries of nonpolar pesticides. [on SciFinder (R)] 0003-2654 pesticide/ supercrit/ fluid/ extn/ drying/ agent

363. Elzen, G. W., Adams, L. C., and Hardee, D. D (1997). Evaluation of tolerance to insecticides in tobacco budworm and bollworm populations, 1996. *Proceedings - Beltwide Cotton Conferences* 1289-1291.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:503853
Chemical Abstracts Number: CAN 127:105606
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Bacillus thuringiensis; Helicoverpa zea; Heliothis virescens; Insecticide resistance (insecticide resistance in tobacco budworm and bollworm populations)
CAS Registry Numbers: 732-11-6 (Phosmet); 2312-35-8 (Propargite); 41198-08-7 (Profenofos); 52315-07-8 (Cypermethrin); 59669-26-0 (Thiodicarb); 68085-85-8 (Cyhalothrin) Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study) (insecticide resistance in tobacco budworm and bollworm populations); 51-03-6 (Piperonyl butoxide) Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study) (insecticide resistance in tobacco budworm and bollworm populations in presence of) Strains of the tobacco budworm, Heliothis virescens (F.), and bollworm, Helicoverpa zea (Boddie), collected in Mississippi were evaluated in bioassays to four classes of insecticides, and mixts. of insecticides and a synergist. High and intermediate levels of resistance were found to cypermethrin and thiodicarb, resp., in H. virescens. No increased tolerance was seen to profenofos in H. virescens and no increased tolerance to any insecticide tested was detected in H. zea. Significant resistance to Bacillus thuringiensis Berliner was not obsd. in either species during the season. No synergism was detected in a bioassay using insecticide mixts. and piperonyl butoxide on a resistant strain of H. virescens. Multiple resistance in H. virescens is still evident and resistance to pyrethroids appears to be stabilized. [on SciFinder (R)] 1059-2644 insecticide/ resistance/ Helicoverpa/ Heliothis

364. Emes, Charles H. and Rowe, Arthur J. (1978). Frictional properties and molecular weight of native and synthetic myosin filaments from vertebrate skeletal muscle. *Biochimica et Biophysica Acta (BBA) - Protein Structure* 537: 125-144.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

1. 1.The molecular weights of a series of synthetic myosin filaments have been measured, using the transport-concentration dependence theory of Rowe, A.J. [Biopolymers, 1977, 16, 2595-2611]. It is shown that for preparations of narrow length distribution (0.60-0.77 [mu]m), N, the number of myosin molecules/14.3 nm varies between 3 and 6. 2. 2.The reduced specific viscosity of synthetic myosin filaments has been measured as a function of both concentration and shear rate. From the concentration dependence at zero rate of shear, a value for the `swelling' of the filaments Vrms/ovbar[nu] = 2.3 has been calculated. 3. 3.The frictional coefficient of synthetic myosin filaments has been shown to be anomalously but reproducibly high, as compared to that of prolate ellipsoids of the same length and mass. This additional frictional drag has been numerically characterised by a `frictional increment', fi = 1.76 +/- 0.11. 4. 4.A procedure has been devised whereby for any elongated structure which can be assumed to show the same (or other known) fi value, the molecular weight can be estimated from so (extrapolated sedimentation coefficient) and 2b (length) alone. 5. 5.An s0 value for natural A-filaments, isolated from rabbit psoas muscle, has been determined by the active enzyme centrifugation technique. From this value, s0 = 132 +/- 3 S, a molecular weight of 1.20 [middle dot] 108 has been computed by the new procedure, for preparations of average length 1.27 [mu]m. 6. 6.Contingent upon the validity of the assumptions

used (see 4 above) the N value is computed as 3.1 +/- 0.2, consistent with the native, fully intact A-filament having three-fold symmetry, containing 294 myosin molecules, and having a molecular weight based upon myosin and C-protein of 1.31 [middle dot] 108.
http://www.sciencedirect.com/science/article/B73GJ-487F8G9-5R/2/dcc6b63f339b089a977dc860c05589d9

365. Engel, Andreas, van Driel, Roel, and Driedonks, Rene (1982). A proposed structure of the prolate phage T4 prehead core: An electron microscopic study. *Journal of Ultrastructure Research* 80: 12-22.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, BACTERIA.

The major core protein of T4 preheads, gp22, self-assembles into filaments that are about 9.5 nm wide, 2 to 3 nm thick, and have an undefined length. The mass of such ribbons, determined by electron scattering in the STEM, is 19 300 daltons/nm, indicating one gp22 molecule (Mr = 27 000) per 1.4 nm. The surface of in vitro assembled, freeze-dried T4 prehead cores shows 9-nm-spaced modulations, running at an angle of 35[degree sign] to the equator of the structure. This result, combined with the fact that the core of abnormally elongated preheads can be described as a six-start helix (), suggests that the surface of the core is formed by six gp22 filaments arranged in a distorted helical way. At one or both ends, the filaments are apparently attached to a special structure, possibly containing gp20. On this basis a simple mechanism for the determination of size and prolate shape of the T4 head is discussed.
http://www.sciencedirect.com/science/article/B7MF7-4DRNWS5-2H/2/5405af689eb74c8120c193be98a0b7bb

366. Engel, Lawrence S., Seixas, Noah S., Keifer, Matthew C., Longstreth, W. T. Jr., and Checkoway, Harvey (2001). Validity study of self-reported pesticide exposure among orchardists. *Journal of Exposure Analysis and Environmental Epidemiology* 11: 359-368.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:835728
Chemical Abstracts Number: CAN 136:188316
Section Code: 59-5
Section Title: Air Pollution and Industrial Hygiene
Document Type: Journal
Language: written in English.
Index Terms: Fungicides; Herbicides; Insecticides; Occupational health hazard; Orchards; Pesticides (validity study of self-reported pesticide exposure among orchardists)
CAS Registry Numbers: 50-29-3 (Ddt); 56-38-2 (Parathion); 63-25-2 (Carbaryl); 72-56-0 (Ethylan); 86-50-0 (Azinphos methyl); 115-29-7 (Endosulfan); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 2439-01-2 (Oxythioquinox); 4685-14-7 (Paraquat); 13171-21-6 (Phosphamidon) Role: MSC (Miscellaneous) (validity study of self-reported pesticide exposure among orchardists)
Citations: Armstrong, B; Principles of exposure measurement in epidemiology 1992
Citations: Baumgarten, M; Am J Epidemiol 1983, 118, 583
Citations: Blair, A; Epidemiology 1993, 4, 55
Citations: Blair, A; Environ Health Perspect 1995, 103(suppl 8), 205
Citations: Bond, G; Am J Epidemiol 1988, 128, 343
Citations: Bourbonnais, R; Br J Ind Med 1988, 45, 29
Citations: Brisson, C; Am J Ind Med 1991, 19, 523
Citations: Dich, J; Cancer Causes Control 1997, 8, 420
Citations: Engel, L; Occup Environ Med in press
Citations: Ferguson, W; Pesticide use on selected crops: aggregated data, 1977-80 1985
Citations: Hayes, W; Handbook of Pesticide Toxicology 1991
Citations: Holmes, E; J Occup Med 1991, 33, 134
Citations: Joffe, M; Am J Epidemiol 1992, 135, 564
Citations: Osteen, C; Agricultural pesticide use trends and policy issues 1989, Agricultural

Economic Report No 622
Citations: Rosenberg, C; Br J Ind Med 1993, 50, 822
Citations: Rosenberg, C; Br J Ind Med 1987, 44, 702
Citations: Stewart, W; J Occup Med 1987, 29, 795
Citations: Gulden, J; Int J Epidemiol 1993, 22, 284
Citations: US Environmental Protection Agency; Washington State Epidemiologic Study Project 1976 Self-reported work histories are often the only means of estg. occupational exposures in epidemiol. research. The objective of this study was to examine the accuracy of recall of historical pesticide use among orchardists. All 185 orchardists in this study had participated previously in a cohort study of men occupationally exposed to pesticides. In that study (1972 to 1976), subjects were interviewed annually and asked to list pesticides used since the last interview. In 1997, 265 of the 440 presumed-living orchardists from the original cohort were successfully recontacted and asked to complete a detailed questionnaire concerning their lifetime use of pesticides; 185 (69.8% of farmers successfully contacted) agreed. Considering the 1972-1976 data as the std., sensitivity and specificity of recall were calcd. for certain pesticides and pesticide categories. Sensitivity of recall was good to excellent (0.6-0.9) for the broad categories of insecticides, herbicides, and fungicides, for heavily used chem. classes, such as organophosphates and organochlorines, and for commonly used pesticides; it was lower and more variable (0.1-0.6) for specific pesticides. Recall specificity was greatest (0.7-0.9) for the least used pesticides and chem. classes, such as dithiocarbamates and manganese-contg. pesticides, and was generally modest for the rest (0.5-0.6). There was no evidence of selection bias between study participants and nonparticipants. In conclusion, recall accuracy was good for commonly used pesticides and pesticide categories. This level of recall accuracy is probably adequate for epidemiol. analyses of broad categories of pesticides, but is a limitation for detecting more specific assocns. [on SciFinder (R)] 1053-4245
pesticide/ exposure/ orchardist

367. Enslein, Kurt, Tuzzeo, Thomas M., Borgstedt, Harold H., Blake, Benjamin W., and Hart, Jeffrey B (1987). Prediction of rat oral LD50 from Daphnia magna LC50 and chemical structure. 91-106.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1988:126169
Chemical Abstracts Number: CAN 108:126169
Section Code: 4-3
Section Title: Toxicology
Document Type: Conference
Coden: 56FSAG
Language: written in English.
Index Terms: Daphnia magna (chems. toxicity to, QSARs in relation to); Toxicity (of chems., prediction of, QSARs in relation to); Molecular structure-biological activity relationship (toxic, of chems.)
CAS Registry Numbers: 50-29-3; 51-28-5; 56-23-5; 56-81-5; 58-89-9; 58-90-2; 62-53-3; 63-25-2; 64-17-5; 67-56-1; 67-63-0; 67-66-3; 67-72-1; 71-23-8; 71-41-0; 71-55-6; 72-54-8; 75-04-7; 75-05-8; 75-07-0; 75-09-2; 75-25-2; 75-35-4; 75-85-4; 76-03-9; 76-44-8; 78-34-2; 78-92-2; 78-93-3; 78-99-9; 79-00-5; 79-01-6; 79-09-4; 80-06-8; 80-15-9; 80-56-8; 84-66-2; 85-68-7; 86-30-6; 87-86-5; 88-06-2; 88-72-2; 88-75-5; 90-13-1; 91-20-3; 92-52-4; 95-48-7; 95-50-1; 95-53-4; 95-57-8; 95-76-1; 95-93-2; 95-94-3; 95-95-4; 98-06-6; 98-95-3; 99-08-1; 99-35-4; 99-65-0; 99-87-6; 99-99-0; 100-42-5; 100-44-7; 100-52-7; 101-27-9; 101-84-8; 102-71-6; 104-75-6; 105-67-9; 106-44-5; 106-46-7; 106-48-9; 107-02-8; 107-05-1; 107-06-2; 107-11-9; 107-13-1; 107-92-6; 108-05-4; 108-21-4; 108-39-4; 108-88-3; 108-91-8; 108-94-1; 108-95-2; 109-57-9; 109-73-9; 109-86-4; 110-12-3; 110-16-7; 110-17-8; 110-19-0; 111-42-2; 115-29-7; 115-31-1; 117-81-7; 118-96-7; 120-82-1; 120-83-2; 121-14-2; 121-75-5; 122-14-5; 122-34-9; 122-66-7; 122-79-2; 123-54-6; 123-86-4; 123-91-1; 126-73-8; 127-09-3; 127-18-4; 131-11-3; 131-17-9; 139-13-9; 140-57-8; 141-97-9; 150-76-5; 151-21-3; 298-00-0; 298-07-7; 302-17-0; 542-75-6; 554-84-7; 563-12-2; 602-01-7; 606-20-2; 608-93-5; 610-39-9; 618-85-9; 650-51-1; 680-31-9; 732-11-6; 957-51-7; 1330-78-5; 1420-04-8;

1861-32-1; 1912-24-9; 1918-02-1; 1918-16-7; 2303-17-5; 2539-17-5; 4684-94-0; 23564-05-8; 33245-39-5; 35367-38-5; 41198-08-7; 51218-45-2 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, prediction of, QSARs in relation to) A structure-activity model (QSAR) of rat oral LD50 toxicity based on D. magna median lethal concn. (LC50) values and structural parameters was developed. Even though the 2 species represent widely different animals, it is possible to achieve reasonably good predictions of the mammalian endpoint. A regression equation based on 147 diverse chems. for which both endpoints were available has a correlation coeff. square of 0.75. The independent parameters consisted of mol. connectivity indexes, both simple and valence adjusted, and substructural keys acting as covariates for the different series of compds. in the data base. Fifty percent of the compds. can be predicted within a factor of 1.7 and 95% within a factor of 6 of the actual values. Thus it is possible to develop interspecies QSAR equations for toxicol. and, possibly, efficacy endpoints. The same principles can be used to model different routes of administration. [on SciFinder (R)] chem/ toxicity/ QSAR

368. Eremina, O. Yu (1986). Toxicity of Pesticides for the Chinese Silkworm. *Agrokhimiya* 0: 127-135.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW INSECTICIDE ACARICIDE FUNGICIDE HERBICIDE
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PREVENTIVE MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: SILKWORMS
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: LEPIDOPTERA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Phytopathology-Disease Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Economic Entomology-Sericulture
KEYWORDS: Invertebrata
KEYWORDS: Lepidoptera
LANGUAGE: rus

369. Erney, D. Ronald (1995). Determination of organophosphorus pesticides in whole/chocolate/skim-milk and infant formula using solid-phase extraction with capillary gas chromatography/flame photometric detection. *Journal of High Resolution Chromatography* 18: 59-62 .
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS

Accession Number: AN 1995:388703
Chemical Abstracts Number: CAN 122:185776
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Milk; Pesticides (pesticide detn. in milk and infant formula using solid-phase extn. with capillary gas chromatog./flame photometric detection); Milk (skim; pesticide detn. in milk and infant formula using solid-phase extn. with capillary gas chromatog./flame photometric detection); Milk preparations (chocolate-flavored, pesticide detn. in milk and infant formula using solid-phase extn. with capillary gas chromatog./flame photometric detection); Milk substitutes (human, pesticide detn. in milk and infant formula using solid-phase extn. with capillary gas chromatog./flame photometric detection)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 78-48-8 (DEF); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 298-00-0 (Methyl parathion); 298-01-1; 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 333-41-5 (Diazinon); 338-45-4; 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-86-8; 944-22-9 (Fonofos); 2104-64-5 (Epn); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 10265-92-6 (Metamidophos); 10311-84-9 (Dialifor); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprop); 18708-86-6; 18708-87-7; 30560-19-1 (Acephate) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticide detn. in milk and infant formula using solid-phase extn. with capillary gas chromatog./flame photometric detection) Twenty nine organophosphorus pesticides (OPPs) are identified on a DB-17 capillary column gas using gas chromatog.-flame photometric detection (GC-FPD). An acetone-acetonitrile mixt. is used to initially ext. OPPs from milk and infant formula samples, followed by partition of the analytes into dichloromethane (DCM). Dichloromethane is removed on a rotary evaporator and the residue taken up in acetonitrile (ACN) for cleanup on a C-18 (octadecylsiloxane bonded silica) (SPE) cartridge. ACN eluate is evapd. under nitrogen and the residue taken up in acetone for GC-FPD detn. Initial studies showed mean recoveries for 28 of 29 OPPs in whole milk fortified at 0.10 ppm ranged between 69 and 99% with a relative std. deviation (RSD) of 1.0-9.7%. Whole/chocolate/skim-milk and four infant formula products fortified at 0.02 ppm gave mean recoveries of 64-103% with RSDs between 1.9 and 20.9% for 24 of 29 OPPs. Excluding skim milk, recoveries for Dichlorvos, Methamidophos, Mevinphos E, and Acephate ranged between 47 and 89%. Sample exts. were extremely clean and posed no difficulty to the GC system. The procedure is faster and less costly than Assocn. of Official Anal. Chemists (AOAC) procedures and allows for detn. of a broad spectrum of OPPs. [on SciFinder (R)] 0935-6304 pesticide/ detn/ milk/ formula/ extn/ chromatog

370. European and Mediterranean Plant Protection Organization (1994). Guideline on Good Plant Protection Practice Potato. *Bull.OEPP* 24: 825-845.
Chem Codes: Chemical of Concern: MZB,DPDP,LNR,PSM Rejection Code: NO TOX DATA/NOT PURSUING.

371. Eylar, E. H. and Thompson, Millie (1969). Allergic encephalomyelitis: the physico-chemical properties of the basic protein encephalitogen from bovine spinal cord. *Archives of Biochemistry and Biophysics* 129: 468-479.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

A protein encephalitogen, isolated in a homogeneous state from bovine spinal cord, was found to have unusual properties. It was highly basic, containing 38 moles/ mole of basic amino acids (arginine, lysine, histidine) and only 7 moles/mole of acidic amino acids (glutamic and aspartic acid); the calculated isoionic point exceeded 12. Only one tryptophan (determined by three independent methods) and two methionine residues were present; no carbohydrate or lipid was associated with the isolated protein. Although similar to certain histone fractions, it differed from these proteins in its much higher content of histidine, glycine, and serine, and its lower content of alanine. The N-terminal position is blocked. The molecular weight determined by sedimentation equilibrium techniques was 16,400 daltons; by sedimentation-viscosity, 16,200; and by UV absorption studies based on the tyrosine-tryptophan content, 16,200. Estimates of molecular weight based on the amino acid analysis gave values of 15,500-18,200 daltons. An intrinsic viscosity of 9.27 ml/g and viscosity increment of 12.9 were found. From these data an axial ratio (a/b) of approximately 10:1 (assuming no hydration and a prolate ellipsoid) was calculated, revealing that the molecule is highly unfolded and approximates a rod-like shape. This property accounts for the unexpected behavior of this basic protein on gel nitration which has led to erroneously high molecular weight values. A small degree of aggregation was observed as indicated by the high molecular weight estimate of 22,300 found near the cell bottom using a long-column sedimentation equilibrium technique. No evidence of aggregation was observed at pH 2.6, 7.0, or 9.5 during sedimentation velocity studies. An S020,w value of 1.72S was found at pH 2.6, ionic strength 0.25. Considerable variation of the S20,w was found with protein concentration, but not with pH. The highly extended conformation of the Al molecule, found from viscosity studies, is compatible with its resistance to denaturation; no loss in encephalitogenic activity was found following heating at 100 [degree sign] for 1 hr, treatment with 8 urea for 8 hr, or incubation at pH 10.0 for 8 hr. Moreover, these procedures do not diminish interaction with antibody measured by the Ouchterlony and passive hemagglutination inhibition tests. Polyacrylamide gel electrophoresis also revealed no drastic changes in conformation arising from these procedures. It was concluded from these data that hydrophobic and hydrogen bonding play a minor role in the overall conformation of the A1 protein molecule. This property is of interest in considering the role of this protein as a membrane component. http://www.sciencedirect.com/science/article/B6WB5-4DXBG66-B5/2/a0c07226224256b7b36e4050fc112dd2

372. Fabrizio, S. V. de, Ledford, R. A., Parada, J. L., and Pan, C. L. (1992). Conjugal transfer of bacteriophage resistance to prolate phages in Lactococcus lactis. *Food Microbiology* 9: 251-263.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Conjugal transfer of lactose-fermenting ability (Lac+) and lytic phage resistance (Lpr+) was demonstrated in four matings between Lactococcus lactis ssp. lactis C2, phage resistant mutant donor strains C21, C23 and C26 and the C2 derivative LM2302 plasmid free recipient strain. Transconjugants were selected with Lac+ Emr and/or Str phenotypes. Lac+ was transferred from donor strains to Lac- Emr and r Str phage sensitive recipient strains at a frequency of 10-6 to 10-8 revealing that Lac+ and subsequently Lpr+ were transferred. Although clumping (Clu) effects with a subsequent high frequency transconjugation (Hft) have been observed before in related strains, it was not evident in this case. Phage assays with Argentine (ARG) and United States (US) phage revealed that recipient strains were Lpr-. Because the transconjugants had the same lytic pattern as the corresponding donor strain, it is apparent that the unselected Lpr+ trait was cotransferred with the Lac+ marker on a 45 kb plasmid. A significant reduction in bacteriophage adsorption and failures in plaque formations for the ARG and the US prolate phages in all Lpr+ strains was also observed. These results suggest that the Lpr+ trait is mobilized by conjugal transfer. http://www.sciencedirect.com/science/article/B6WFP-4F1JC6H-9/2/e1b99d97ba101bd95bdfe396125ee796

373. Fan, A. M. and Jackson, R. J. (1989). Pesticides and Food Safety. *Regul toxicol pharmacol* 9: 158-174.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ENVIRONMENTAL CONTAMINATION FOOD RESIDUES CARCINOGENS REGULATORY AGENCY FDA FOOD INDUSTRY 1 CROP INDUSTRY ENVIRONMENTAL SURVEILLANCE
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ANALYSIS

MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: PUBLIC HEALTH ADMINISTRATION
MESH HEADINGS: STATISTICS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: MORBIDITY
MESH HEADINGS: NEOPLASMS
KEYWORDS: General Biology-Institutions
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-General
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Food Technology-Preparation
KEYWORDS: Toxicology-General
KEYWORDS: Toxicology-Foods
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: Public Health-Public Health Administration and Statistics
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Public Health: Epidemiology-Organic Diseases and Neoplasms
LANGUAGE: eng

374. Farin, Dina and Avnir, David (1989). The effects of the fractal geometry of surfaces on the adsorption conformation of polymers at monolayer coverage part I. The case of polystyrene. *Colloids and Surfaces* 37: 155-170.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Surface geometry effects on the adsorption conformations of polymers under plateau conditions are found and analyzed by using fractal geometry considerations. The re-analysis of many adsorption studies, with special emphasize on polystyrene, shows that while on a flat surface a dense packing is formed, distorting the solution conformation into a prolate shape, on highly porous objects the solution conformation changes only slightly upon adsorption. These general trends show a surprisingly low sensitivity to the chemical nature of the polymer--solvent--surface system, emphasizing the crucial role of environmental geometry in determining adsorption conformations. http://www.sciencedirect.com/science/article/B6W92-4400WNM-93/2/305e9963b7da5b4e7b56c82670a91fe1

375. Farmer, J. H., Uhler, R. J., and Haley, T. J. (An Unbalanced Experimental Design for Dose Response Studies. *J. Environ. Pathol. Toxicol. 1(2): 293-299 1977 (6 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: PESTAB. A study was made of 60 sets of real data for 15 different pesticides;

formetanate, carbaryl, propoxur, mexacarbate, dioxacarb, dichlorvos, naled, trichlorfon, fospirate, GC-6506, phosmet, fenitrothion, azinphosmethyl, parathion, and methyl parathion, for the purpose of developing appropriate experimental designs for studying the toxic properties of these agents. The quantal responses for the dose groups in this data ranged from 1% to 90%. The data could be represented equally well by a probit or logit transformation. Investment in 7 times as many animals would greatly increase the confidence in estimating the parameters of the model and in predicting the dose at the low end of the dose response scale. It was also shown that the estimation of a safe dose for a specified risk was greatly influenced by the choice of experimental design and method of extrapolation.

376. Farrell, S. O. (Evaluation of Color Infrared Aerial Surveys of Wastewater Soil Absorption Systems. *Govt reports announcements & index (gra&i), issue 17, 1985*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: Color infrared (CIR) aerial surveys can identify soil absorption systems in which the effluent rises rather than percolates into the ground water. This report reviews the technique's scientific basis and effectiveness, and discusses the procedures and equipment required for such surveys, and survey costs. Final rept.,
KEYWORDS: Aerial surveys
KEYWORDS: Waste water
KEYWORDS: Soils
KEYWORDS: Absorption

377. Feng, M., Schrlau, J. E., Snyder, R., Snyder, G. H., Chen, M., Cisar, J. L., and Cai, Y. (Arsenic Transport and Transformation Associated With Msma Application on a Golf Course Green. *J agric food chem. 2005, may 4; 53(9):3556-62. [Journal of agricultural and food chemistry]: J Agric Food Chem*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, MODELING.

COMMENTS: Comment in: J Agric Food Chem. 2006 Mar 22;54(6):2436-7; author reply 2438-40 (medline/16536631)
ABSTRACT: The impact of extensively used arsenic-containing herbicides on groundwater beneath golf courses has become a topic of interest. Although currently used organoarsenicals are less toxic, their application into the environment may produce the more toxic inorganic arsenicals. The objective of this work was to understand the behavior of arsenic species in percolate water from monosodium methanearsonate (MSMA) applied golf course greens, as well as to determine the influences of root-zone media for United State Golf Association (USGA) putting green construction on arsenic retention and species conversion. The field test was established at the Fort Lauderdale Research and Education Center (FLREC), University of Florida. Percolate water was collected after MSMA application for speciation and total arsenic analyses. The results showed that the substrate composition significantly influenced arsenic mobility and arsenic species transformation in the percolate water. In comparison to uncoated sands (S) and uncoated sands and peat (S + P), naturally coated sands and peat (NS + P) showed a higher capacity of preventing arsenic from leaching into percolate water, implying that the coatings of sands with clay reduce arsenic leaching. Arsenic species transformation occurred in soil, resulting in co-occurrence of four arsenic species, arsenite (As(III)), arsenate (As(V)), monomethylarsonic acid (MMA), and dimethylarsinic acid (DMA) in percolate water. The results indicated that substrate composition can significantly affect both arsenic retention in soil and arsenic speciation in percolate water. The clay coatings on the soil particles and the addition of peat in the soil changed the arsenic bioavailability, which in turn controlled the microorganism-mediated arsenic transformation. To better explain and understand arsenic transformation and transport after applying MSMA in golf green, a conceptual model was proposed.
MESH HEADINGS: Arsenic/analysis/chemistry/*metabolism
MESH HEADINGS: Arsenicals/*administration &amp
MESH HEADINGS: dosage/chemistry
MESH HEADINGS: *Golf

MESH HEADINGS: Herbicides/*administration &amp
MESH HEADINGS: dosage/chemistry
MESH HEADINGS: *Poaceae
MESH HEADINGS: Soil/analysis
MESH HEADINGS: Soil Microbiology
MESH HEADINGS: Water/analysis
LANGUAGE: eng

378. Fenn, M. E. , Poth, M. A., and Arbaugh, M. J. (A Throughfall Collection Method Using Mixed Bed Ion Exchange Resin Columns. *Scientificworldjournal. 2002, jan 15; 2:122-30. [Thescientificworldjournal]: ScientificWorldJournal.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: Measurement of ionic deposition in throughfall is a widely used method for measuring deposition inputs to the forest floor. Many studies have been published, providing a large database of throughfall deposition inputs to forests. However, throughfall collection and analysis is labor intensive and expensive because of the large number of replicate collectors needed and because sample collection and chemical analyses are required on a stochastic precipitation event-based schedule. Therefore we developed and tested a throughfall collector system using a mixed bed ion exchange resin column. We anticipate that this method will typically require only one to three samplings per year. With this method, bulk deposition and bulk throughfall are collected by a funnel or snow tube and ions are retained as the solution percolates through the resin column. Ions retained by the resin are then extracted in the same column with 2 N KCl and analyzed for nitrate and ammonium. Deposition values in throughfall from conventional throughfall solution collectors and colocated ion exchange samplers were not significantly different during consecutive 3- and 4-month exposure periods at a high (Camp Paivika; >35 kg N ha(-1) year(-1)) and a low deposition (Barton Flats; 5-9 kg N ha(-1) year(-1)) site in the San Bernardino Mountains in southern California. N deposition in throughfall under mature pine trees at Camp Paivika after 7 months of exposure was extremely high (87 and 92 kg ha-1 based on the two collector types) compared to Barton Flats (11 and 13 kg ha(-1)). A large proportion of the N deposited in throughfall at Camp Paivika occurred as fog drip, demonstrating the importance of fog deposition as an input source of N at this site. By comparison, bulk deposition rates in open areas were 5.1 and 5.4 kg ha(-1) at Camp Paivika based on the two collector types, and 1.9 and 3.0 kg ha(-1) at Barton Flats.
MESH HEADINGS: Ammonia/analysis
MESH HEADINGS: Ecosystem
MESH HEADINGS: Environmental Monitoring/economics/instrumentation/*methods
MESH HEADINGS: Ion Exchange Resins/*chemistry/economics
MESH HEADINGS: Nitrates/analysis
MESH HEADINGS: Pinus ponderosa/chemistry
MESH HEADINGS: Rain
MESH HEADINGS: Reproducibility of Results
MESH HEADINGS: Snow
MESH HEADINGS: Time
MESH HEADINGS: Water/analysis/chemistry
LANGUAGE: eng

379. Fenske, Richard A., Kedan, Golan, Lu, Chensheng, Fisker-Andersen, Jennifer A., and Curl, Cynthia L (2002). Assessment of organophosphorous pesticide exposures in the diets of preschool children in Washington State. *Journal of Exposure Analysis and Environmental Epidemiology* 12: 21-28.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:181948
Chemical Abstracts Number: CAN 136:212133

Section Code: 4-4
Section Title: Toxicology
CA Section Cross-References: 17
Document Type: Journal
Language: written in English.
Index Terms: Development (child; organophosphorous pesticide exposure of preschool children via food in Washington State); Beverages; Dairy products; Food contamination; Fruit; Human; Vegetable (organophosphorous pesticide exposure of preschool children via food in Washington State); Pesticides (organophosphorus; organophosphorous pesticide exposure of preschool children via food in Washington State); Food (processed; organophosphorous pesticide exposure of preschool children via food in Washington State)
CAS Registry Numbers: 60-51-5 (Dimethoate); 62-73-7 (Dichlorovos); 86-50-0 (Azinphosmethyl); 121-75-5 (Malathion); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 944-22-9 (Dyfonate); 950-37-8 (Methidation); 2921-88-2 (Chlorpyrifos); 7786-34-7 (Mevinphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprop); 29232-93-7 (Pirimiphos-methyl) Role: POL (Pollutant), OCCU (Occurrence) (organophosphorous pesticide exposure of preschool children via food in Washington State)
Citations: Akland, G; J Exposure Anal Environ Epidemiol 2000, 10(6), 710
Citations: Berry, M; J Exposure Anal Environ Epidemiol 1997, 7(1), 3
Citations: Blair, D; Nutr Today 1989, Nov/Dec, 13
Citations: Eskanazi, B; Environ Health Perspect 1999, 109(suppl 3), 409
Citations: Faustman, E; Environ Health Perspect 2000, 108(suppl 3), 13
Citations: Gordon, S; J Exposure Anal Environ Epidemiol 1999, 9, 456
Citations: Hubal, E; Environ Health Perspect 2000, 108(6), 475
Citations: Kedan, G; MS thesis, University of Washington 1999
Citations: Koch, D; Environ Health Perspect, submitted
Citations: International Life Sciences Institute; A Framework for Cumulative Risk Assessment Workshop Report 1999
Citations: Lu, C; Environ Health Perspect 2001, 109(3), 299
Citations: Macintosh, D; Environ Health Perspect 2001, 109(2), 1
Citations: Macintosh, D; Environ Health Perspect 1996, 104(2), 202
Citations: Melnyk, L; J Exposure Anal Environ Epidemiol 1997, 7(1), 61
Citations: National Research Council; Pesticides in the Diets of Infants and Children 1993
Citations: Olden, K; Environ Health Perspect 2000, 108(6), 250
Citations: Quackenboss, J; J Exposure Anal Environ Epidemiol 2000, 10, 145
Citations: Schattenberg, H; J AOAC Int 1996, 79(6), 1447
Citations: Thomas, K; J Exposure Anal Environ Epidemiol 1997, 7(1), 17
Citations: Tomerlin, J; J Exposure Anal Environ Epidemiol 1997, 7(1), 81
Citations: Usda; Pesticide Data Program Annual Summary Calendar Year 1997 1997
Citations: Usepa; Revised Acute Dietary Risk Assessment for Chlorpyrifos Memorandum 1999
Citations: Usepa; Human Health Risk Assessment Azinphosmethyl 1999
Citations: Usepa; Choosing a Percentile of Acute Dietary Exposure as a Threshold of Regulatory Concern 2000
Citations: Usfda; Food and Drug Administration Pesticide Program Residue Monitoring 1996
Citations: Whitmore, R; Arch Environ Contam Toxicol 1994, 26, 47
Citations: World Health Organization; WHO Offset Publication 1985, 87 Twenty-four hour duplicate diet sampling was employed to investigate dietary pesticide exposures of children aged 2 to 5 yr. Duplicate diets were collected from seven children living in the Seattle metropolitan area and six children living in Chelan and Douglas counties in Central Washington. Diet samples were collected from each child in the summer and again in the fall, and total daily diets were divided into four food categories: fresh fruits and vegetables, beverages, processed foods, and dairy products. A total of 88 individual food category samples were collected and analyzed for 15 organophosphorous (OP) pesticides. Three of the 13 children had no detectable OP pesticides in either of their diet samples, and 14 of the 26 duplicate diets did not contain detectable levels of OP pesticides. Sixteen individual food category samples contained detectable levels of at least one OP pesticide and two of these samples contained detectable levels of two OP pesticides. Of the 15

targeted pesticides, 6 were detected: azinphosmethyl, chlorpyrifos, malathion, methidathion, methyl parathion, and phosmet. Azinphosmethyl was detected most frequently (10% of all samples), particularly in samples contg. apples or apple juice. The fresh fruits and vegetable category had the most frequent pesticide detns., followed by beverages. OP pesticides were not present at detectable levels in any of the dairy samples. Malathion was the only OP pesticide detected in processed food samples, appearing in 4 of the 26 samples (15%). No detections were above the legal tolerances for residues on produce, however the acute population -adjusted ref. dose (aPAD) for chlorpyrifos exposure of 1.7 mg/kg/day was exceeded by one subject during one sampling event. This subject's cumulative daily dose of chlorpyrifos equiv. was estd. to be 2.5 mg/kg/day. [on SciFinder (R)] 1053-4245 organophosphorous/ pesticide/ exposure/ child/ food/ contamination

380. Fenske, Richard A., Kissel, John C., Lu, Chensheng, Kalman, David A., Simcox, Nancy J., Allen, Emily H., and Keifer, Matthew C (2000). Biologically based pesticide dose estimates for children in an agricultural community. *Environmental Health Perspectives* 108: 515-520.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:555710
Chemical Abstracts Number: CAN 133:292114
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Health hazard; Risk assessment (biol. based pesticide dose ests. for children in an agricultural community); Development (child; biol. based pesticide dose ests. for children in an agricultural community); Pesticides (organophosphorus; biol. based pesticide dose ests. for children in an agricultural community)
Citations: 1) International Life Sciences Institute; Similarities and Differences between Children and Adults: Implications for Risk Assessment 1992
Citations: 2) National Research Council; Pesticides in the Diets of Infants and Children 1993
Citations: 3) National Research Council; Measuring Lead Exposure in Infants, Children and other Sensitive Populations 1993
Citations: 4) Jacobson, J; N Engl J Med 1996, 335, 783
Citations: 5) Whitney, K; Toxicol Appl Pharmacol 1995, 134, 53
Citations: 6) Chanda, S; Pharmacol Biochem Behav 1996, 53, 771
Citations: 7) Anon; Food Quality Protection Act of 1996 Public Law 104-170 1996
Citations: 8) International Life Sciences Institute; Workshop on Aggregate Exposure Assessment 1998
Citations: 9) International Life Sciences Institute; A Framework for Cumulative Risk Assessment 1999
Citations: 10) US Environmental Protection Agency Office of Pesticide Programs; Organophosphate Pesticides: Documents for Chlorpyrifos, http://www.epa.gov/pesticides/op/chlorpyrifos.htm 2000
Citations: 11) US EPA; 1996 Food Quality Protection Act Implementation Plan 1997
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Citations: 13) Gallo, M; Handbook of Pesticide Toxicology 1991, 917
Citations: 14) Fenske, R; J Exp Anal Environ Epidemiol in press
Citations: 15) Loewenherz, C; Environ Health Perspect 1997, 105, 1344
Citations: 16) International Commission on Radiological Protection; Report of the Task Group on Reference Man: A Report Prepared by a Task Group of Committee 2 of the International Commission on Radiological Protection 1975
Citations: 17) Anon; Pediatric Clinical Chemistry: A Survey of Reference (Normal) Values, Methods and Instrumentation With Commentary 3rd ed 1988
Citations: 18) US Environmental Protection Agency; Exposure Factors Handbook 1997, 1

Citations: 19) US EPA; Fed Reg 1992, 57, 22888
Citations: 20) Simcox, N; Environ Health Perspect 1995, 103, 1126
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Citations: 22) Lu, F; Regul Toxicol Pharmacol 1995, 21, 352
Citations: 23) US Environmental Protection Agency Office of Pesticide Programs; Organophosphate Pesticides: Documents for Phosmet, http://www.epa.gov/pesticides/op/phosmet.htm 2000
Citations: 24) US Environmental Protection Agency Office of Pesticide Programs; Organophosphate Pesticides: Documents for Azinphos-Methyl, http://www.epa.gov/pesticides/op/azm.htm 2000
Citations: 25) US EPA Office of Pesticide Programs; Hazard Assessment of the Organophosphates Report 1998
Citations: 26) Franklin, C; Toxicol Lett 1986, 33, 127
Citations: 27) Chester, G; Toxicol Lett 1986, 33, 137
Citations: 28) Anon; Methods of Pesticide Exposure Assessment 1995
Citations: 29) ACGIH; TLVs and BEIs: Threshold Limit Values for Chemical Substances and Physical Agents: Biological Exposure Indices 1999
Citations: 30) Sata, F; Int Arch Occup Environ Health 1995, 68, 64
Citations: 31) Feldmann, R; Toxicol Appl Pharmacol 1974, 28, 126
Citations: 32) Moate, T; J Anal Toxicol 1999, 23, 230
Citations: 33) US EPA Office of Pesticide Programs; Standard Operating Procedures (SOPs) for Residential Exposure Assessments 1997
Citations: 34) WHO; Environmental Health Criteria 170: Assessing Human Health Risks of Chemicals: Derivation of Guidance Values for Health-Based Exposure Limits 1994
Citations: 35) Schilter, B; Regul Toxicol Pharmacol 1996, 24, 126
Citations: 36) Hill, R; Environ Res 1995, 71, 99
Citations: 37) Teutsch, S; Morb Mortal Wkly Rep 1992, 41(RR-3), 1
Citations: 38) National Research Council; Monitoring Human Tissues for Toxic Substances 1991
Current pesticide health risk assessments in the United States require the characterization of aggregate exposure and cumulative risk in the setting of food tolerances. Biol. monitoring can aggregate exposures from all sources and routes, and can integrate exposures for chems. with a common mechanism of action. Its value was demonstrated in a recent study of organophosphorus (OP) pesticide exposure among 109 children in an agricultural community in Washington State; 91 of the children had parents working in agriculture. We estd. individual OP pesticide doses from urinary metabolite concns. with a deterministic steady state model, and compared them to toxicol. ref. values. We evaluated doses by assuming that metabolites were attributable entirely to either azinphos-Me or phosmet, the two OP pesticides used most frequently in the region. Creatinine-adjusted av. dose ests. during the 6- to 8-wk spraying season ranged from 0 to 36 mg/kg/day. For children whose parents worked in agriculture as either orchard applicators or as fieldworkers, 56% of the doses estd. for the spray season exceeded the U.S. Environmental Protection Agency (EPA) chronic dietary ref. dose, and 19% exceeded the World Health Organization acceptable daily intake values for azinphos-Me. The corresponding values for children whose parents did not work in agriculture were 44 and 22%, resp. The percentage of children exceeding the relevant ref. values for phosmet was substantially lower (< 10%). Single-day dose ests. ranged from 0 to 72 mg/kg/day, and 26% of these exceeded the EPA acute ref. dose for azinphos-Me. We also generated dose ests. by adjustment for total daily urine vol., and these ests. were consistently higher than the creatinine-adjusted ests. None of the dose ests. exceeded the empirically derived no-observable-adverse-effect levels for these compds. The study took place in an agricultural region during a period of active spraying, so the dose ests. for this population should not be considered representative of exposures in the general population. The findings indicate that children living in agricultural regions represent an important subpopulation for public health evaluation, and that their exposures fall within a range of regulatory concern. They also demonstrate that biol. based exposure measures can provide data for health risk evaluations in such populations. [on SciFinder (R)] 0091-6765 organophosphorus/ pesticide/ children/ risk/ assessment

381. Fenske, Richard A., Lu, Chensheng, Barr, Dana, and Needham, Larry (2002). Children's exposure to chlorpyrifos and parathion in an agricultural community in central Washington State. *Environmental Health Perspectives* 110: 549-553.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 2002:433835
Chemical Abstracts Number: CAN 137:158381
Section Code: 59-2
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Development (child; children's exposure to chlorpyrifos and parathion in agricultural community in central Washington State); Air pollution; Hand; Human; Skin; Urine (children's exposure to chlorpyrifos and parathion in agricultural community in central Washington State); Dust (house; children's exposure to chlorpyrifos and parathion in agricultural community in central Washington State); Pesticides (organophosphorus; children's exposure to chlorpyrifos and parathion in agricultural community in central Washington State)
CAS Registry Numbers: 100-02-7 (4-Nitrophenol); 6515-38-4 (3,5,6-Trichloro-2-pyridinol) Role: BSU (Biological study, unclassified), BIOL (Biological study) (children's exposure to chlorpyrifos and parathion in agricultural community in central Washington State); 56-38-2 (Ethyl parathion); 2921-88-2 (Chlorpyrifos) Role: POL (Pollutant), OCCU (Occurrence) (children's exposure to chlorpyrifos and parathion in agricultural community in central Washington State)
Citations: 1) National Research Council; Pesticides in the Diets of Infants and Children 1993
Citations: 2) International Life Sciences Institute; Workshop on Aggregate Exposure Assessment 1998
Citations: 3) Simcox, N; Environ Health Perspect 1995, 103, 1126
Citations: 4) Loewenherz, C; Environ Health Perspect 1997, 105, 1344
Citations: 5) Lu, C; Environ Res 2000, 84, 290
Citations: 6) Roberts, J; J Expo Anat Environ Epidemiol Suppl, 1, 127
Citations: 7) Hill, R; Environ Res 1995, 71, 99
Citations: 8) Alessio, L; Int Arch Occup Environ Health 1985, 55, 130
Citations: 9) Fox, R; Trans ASAE 1993, 36, 330
Citations: 10) Lu, C; Environ Health Perspect 2001, 109, 299 We measured 2 di-Et organophosphorus (OP) pesticides - chlorpyrifos and parathion - in residences, and their metabolic byproducts, in the urine of children 6 yr old or younger in a central Washington State agricultural community. Exposures to 2 di-Me OP pesticides (azinphos-Me and phosmet) in this same population were reported previously. We categorized children by parental occupation and by household proximity to pesticide-treated farmland. Median chlorpyrifos house dust concns. were highest for the 49 applicator homes (0.4 mg/g), followed by the 12 farm-worker homes (0.3 mg/g) and the 14 nonagricultural ref. homes (0.1 mg/g), and were statistically different ($p <0.001$); we obsd. a similar pattern for parathion in house dust. Chlorpyrifos was measurable in the house dust of all homes, whereas we found parathion in only 41% of the homes. 24% Of the urine samples from study children had measurable 3,5,6-trichloro-2-pyridinol (TCPy) concns. [limits of quantitation (LOQ) = 8 mg/L], and 7% had measurable 4-nitrophenol concns. (LOQ = 9 mg/L). Child urinary metabolite concns. did not differ across parental occupational classifications. Homes in close proximity (200 ft/60 m) to pesticide-treated farmland had higher chlorpyrifos ($p = 0.01$) and parathion ($p = 0.014$) house dust concns. than did homes farther away, but this effect was not reflected in the urinary metabolite data. Use of OP pesticides in the garden was assocd. with an increase in TCPy concns. in children's urine. Parathion concns. in house dust decreased 10-fold from 1992 to 1995, consistent with the discontinued use of this product in the region in the early 1990s. [on SciFinder (R)] 0091-6765 chlorpyrifos/ ethyl/ parathion/ exposure/ child/ urine;/ organophosphorus/ pesticide/ exposure/ child/ urine

382. Fenske, Richard A., Lu, Chensheng, Simcox, Nancy J., Loewenherz, Carrie, Touchstone, Jennifer, Moate, Thomas F., Allen, Emily H., and Kissel, John C (2000). Strategies for assessing children's organophosphorus pesticide exposures in agricultural communities. *Journal of Exposure Analysis and Environmental Epidemiology* 10: 662-671.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 2001:35592
Chemical Abstracts Number: CAN 134:189275
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Development (child; assessing children's organophosphorus pesticide exposures in agricultural communities); Pesticides (organophosphorus; assessing children's organophosphorus pesticide exposures in agricultural communities)
CAS Registry Numbers: 56-38-2 (Ethyl parathion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyrifos); 7786-34-7 (Mevinphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprop); 14265-44-2D (Phosphate) Role: POL (Pollutant), OCCU (Occurrence) (assessing children's organophosphorus pesticide exposures in agricultural communities)
Citations: Aprea, C; J Anal Toxicol 1996, 20, 559
Citations: Ashford, N; Monitoring the Worker for Exposure and Disease: Scientific, Legal, and Ethical Considerations in the Use of Biomarkers 1990
Citations: Azaroff, L; Environ Res 1999, 80, 138
Citations: Callahan, M; J Expos Anal Environ Epidemiol 1995, 5(3), 257
Citations: Eskenazi, B; Environ Health Perspect 1999, 107, 409
Citations: Fenske, R; Environ Health Perspect 2000, 108, 515
Citations: Fox, R; Trans ASAE 1993, 36, 330
Citations: Guillette, E; Environ Health Perspect 1998, 106, 347
Citations: International Life Sciences Institute; A Framework for Cumulative Risk Assessment 1999
Citations: Kissel, J; Epidemiology 1999, 10(suppl), S110
Citations: Loewenherz, C; Environ Health Perspect 1997, 105, 1344
Citations: Lu, C; Environ Res 2000, 84(3)
Citations: Mileson, B; Toxicol Sci 1998, 41, 8
Citations: Moate, T; J Anal Toxicol 1999, 23, 230
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Citations: Simcox, N; Environ Health Perspect 1995, 103, 1126
Citations: US Environmental Protection Agency; 1996 Food Quality Protection Act Implementation Plan 1997
Citations: US Environmental Protection Agency; Report of the Hazard Identification Assessment Review Committee 1998
Citations: US Environmental Protection Agency; Implementing the Food Quality Protection Act: Progress Report 1999 Children can be exposed to pesticides from multiple sources and through multiple pathways. In addn. to the std. pathways of diet, drinking water and residential pesticide use, children in agricultural communities can be exposed to pesticides used in agricultural prodn. A research program on children and pesticides was established at the University of Washington (UW) in 1991 and has focused on two major exposure pathway issues: residential proximity to pesticide-treated farmland and transfer of pesticides from the workplace to the home (paraoccupational or take-home exposure). The UW program selected preschool children of agricultural producers and farm workers in the tree fruit region of Washington state as a population that was likely to have elevated exposures from these pathways. The organophosphorus (OP) pesticides were selected as a common class of chems. for anal. so that

issues of aggregate exposure and cumulative risk could be addressed. This paper provides an overview of key findings of the research group over the past 8 yr and describes current studies in this field. Soil and housedust concns. of OP pesticides were elevated in homes of agricultural families (household members engaged in agricultural prodn.) when compared to non-agricultural ref. homes in the same community. Dialkyl phosphate metabolites of OP pesticides measured in children's urine were also elevated for agricultural children when compared to ref. children and when compared to children in the Seattle metropolitan area. Proximity to farmland was assocd. with increased OP pesticide concns. in housedust and OP pesticide metabolites in urine. Current studies include a community-based intervention to reduce parental transfer of pesticides from the workplace, and a systematic investigation of the role of agricultural spray drift in children's exposure to pesticides. [on SciFinder (R)] 1053-4245 organophosphorus/ pesticide/ child/ exposure

383. Fent, G., Kubiak, R., and Eichhorn, K. W. (1993). Fate of the New Sulfonylurea Amidosulfuron in Soil. *Sci.Total Environ.* 132: 201-215.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

384. Ferguson, Will E. and Koenig, Virgil L. (1972). Isolation and characterization of bovine, canine and ovine [alpha]-crystallins. *Comparative Biochemistry and Physiology Part B: Biochemistry and Molecular Biology* 43: 151-154.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

1. 1. [alpha]-Crystallins were isolated from bovine, canine and ovine ocular lenses by chemical methods. 2. 2. An alkaline-modified bovine [alpha]-crystallin was prepared by subjecting normal bovine [alpha]-crystallin to pH > 9[middle dot]5 with subsequent precipitation at pH 5[middle dot]1. 3. 3. Electrophoretic mobilities of the various [alpha]-crystallins were determined by moving boudary electrophoresis in Na-veronal and Tris-veronal buffers. Canine [alpha]-crystallin had the highest mobility. 4. 4. The [alpha]-crystallins were characterized by sedimentation, viscosity and partial specific volume determinations. 5. 5. Molecular weights were determined by means of sedimentation equilibrium. The values were: bovine, 1,035,000; alkaline-modified bovine, 499,000; ovine, 1,047,000; and canine, 924,000. 6. 6. Molecular weights and dimensions were calculated assuming prolate and oblate ellipsoidal and spherical models from sedimentation, viscosity and partial specific volume data. http://www.sciencedirect.com/science/article/B6T2R-47GB661-R8/2/73a09dbebbfe777f9dc6bf2786d41e83

385. Fernandez, M., Padron, C., Marconi, L., Ghini, S., Colombo, R., Sabatini, A. G., and Girotti, S (2001). Determination of organophosphorus pesticides in honeybees after solid-phase microextraction. *Journal of Chromatography, A* 922: 257-265.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:520275
Chemical Abstracts Number: CAN 135:103534
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Gas chromatography; Honeybee (detn. of organophosphorus pesticides in honeybees after solid-phase microextn.); Pesticides (organophosphorus; detn. of organophosphorus pesticides in honeybees after solid-phase microextn.); Microextraction (solid-phase; detn. of organophosphorus pesticides in honeybees after solid-phase microextn.)
CAS Registry Numbers: 56-38-2 (Parathion ethyl); 56-72-4 (Coumaphos); 121-75-5 (Malathion); 298-00-0 (Parathion methyl); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2597-03-7 (Phenthoate); 5598-13-0 (Chlorpyrifos methyl); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 23505-41-1

(Pirimiphos ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos methyl) Role: ANT (Analyte), ANST (Analytical study) (detn. of organophosphorus pesticides in honeybees after solid-phase microextn.)
Citations: 1) Celli, G; Scienze 1991, 274, 42
Citations: 2) Wallaork, K; Am Bee J 1982, 122, 770
Citations: 3) Kevan, P; Agric Ecosyst Environ 1999, 74, 373
Citations: 4) Jones, A; J Agric Food Chem 1997, 45, 2143
Citations: 5) Spittler, T; J Chromatogr 1986, 352, 439
Citations: 6) Ebing, W; Fresenius J Anal Chem 1987, 327, 539
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Citations: 9) Eisert, R; Crit Rev Anal Chem 1997, 27, 103
Citations: 10) Page, B; J Chromatogr A 1997, 757, 173
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Citations: 14) Eisert, R; J Anal Chem 1995, 351, 555
Citations: 15) Sng, M; J Chromatogr A 1997, 759, 225
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Citations: 20) Ferrari, R; J Chromatogr A 1998, 795, 371
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Citations: 24) Volante, M; J Environ Sci Health B 1998, 3, 279
Citations: 25) Jimenez, J; J Chromatogr A 1998, 829, 269
Citations: 26) Chen, W; Environ Sci Technol 1998, 32, 3816
Citations: 27) Dugay, J; J Chromatogr A 1998, 795, 27
Citations: 28) Rossi, S; J Chromatogr A 2001, 905, 223 A method based on solid-phase microextn. (SPME) followed by gas chromatog. with nitrogen-phosphorus detection was developed for the purpose of detg. 18 organophosphorus pesticide residues in honeybee samples (Apis mellifera). The extn. capacities of polyacrylate and poly(dimethylsiloxane) fibers were compared. The main factors affecting the SPME process, such as the absorption time profile, salt, and temp., were optimized. The method involved honeybee sample homogenization, elution with an acetone:water soln. (1:1) and diln. in water prior to fiber extn. Moreover, the matrix effect on the extn. was evaluated. In samples spiked at the 0.2 mg kg-1 level, the coeff. variation was between 1 and 13% and the detection limits were below 10 mg kg-1. The SPME procedure was found to be quicker and more cost-effective than the solvent extn. method commonly used. The method was applied successfully to environmental screening. Parathion Me was detected and confirmed in the real samples analyzed. [on SciFinder (R)] 0021-9673 organophosphorus/ pesticides/ honeybee/ SPME/ gas/ chromatog;/ solid/ phase/ microextn/ organophosphorus/ pesticides/ honeybee

386. Fernandez, M., Pico, Y., Girotti, S., and Manes, J (2001). Analysis of organophosphorus pesticides in honeybee by liquid chromatography-atmospheric pressure chemical ionization-mass spectrometry. *Journal of Agricultural and Food Chemistry* 49: 3540-3547.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:494887
Chemical Abstracts Number: CAN 135:103531
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal

Language: written in English.
Index Terms: Chemical ionization mass spectrometry (atm.-pressure; organophosphorus pesticides detn. in honeybee by LC-atm. pressure pos. or neg. ion chem. ionization-MS); Honeybee; Liquid chromatography (organophosphorus pesticides detn. in honeybee by LC-atm. pressure pos. or neg. ion chem. ionization-MS); Phosphates Role: ANT (Analyte), ANST (Analytical study) (organophosphorus pesticides detn. in honeybee by LC-atm. pressure pos. or neg. ion chem. ionization-MS); Pesticides (organophosphorus; organophosphorus pesticides detn. in honeybee by LC-atm. pressure pos. or neg. ion chem. ionization-MS); Phosphates Role: ANT (Analyte), ANST (Analytical study) (phosphorodithioates; organophosphorus pesticides detn. in honeybee by LC-atm. pressure pos. or neg. ion chem. ionization-MS); Phosphates Role: ANT (Analyte), ANST (Analytical study) (phosphorothioates; organophosphorus pesticides detn. in honeybee by LC-atm. pressure pos. or neg. ion chem. ionization-MS)
CAS Registry Numbers: 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 311-45-5 (Paraoxon); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 2104-96-3 (Bromophos); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2597-03-7; 2642-71-9 (azinphos-ethyl); 5598-13-0; 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-methyl) Role: ANT (Analyte), ANST (Analytical study) (organophosphorus pesticides detn. in honeybee by LC-atm. pressure pos. or neg. ion chem. ionization-MS)
Citations: 1) Pico, Y; Food Analysis by HPLC, Chapter 17 1996, 717
Citations: 2) Celli, G; Scienze 1991, 274, 42
Citations: 3) Kevan, P; Agric Ecosyst Environ 1999, 74, 373
Citations: 4) Hogendoorn, E; J Chromatogr A 2000, 892, 435
Citations: 5) Slobodnik, J; J Chromatogr A 1995, 703, 81
Citations: 6) Kawasaki, S; J Chromatogr A 1992, 595, 193
Citations: 7) Fernandez, M; J Chromatogr A 2000, 871, 43
Citations: 8) Barnes, A; Rapid Commun Mass Spectrom 1997, 11, 117
Citations: 9) Crescenzi, C; Environ Sci Technol 1997, 31, 479
Citations: 10) Lacorte, S; Anal Chem 1996, 68, 2464
Citations: 11) Cabras, P; J Apic Res 1994, 33, 83
Citations: 12) Bernal, J; J Chromatogr A 1997, 787, 129
Citations: 13) Rossi, S; J Chromatogr A 2001, 905, 223
Citations: 14) Jones, A; J Agric Food Chem 1997, 45, 2143
Citations: 15) Itoh, H; J Chromatogr A 1996, 754, 61
Citations: 16) Lacorte, S; J Chromatogr A 1998, 795, 13
Citations: 17) Sasaki, K; J Assoc Off Anal Chem 1987, 70, 460
Citations: 18) Bernal, J; J Chromatogr A 1996, 754, 507 Pesticides applied in extended agricultural fields may be controlled by means of bioindicators, such as honeybees, in which are the pesticides bioaccumulate. Liq. chromatog.-atm. pressure chem. ionization-mass spectrometry (LC-APCI-MS) expts. with pos. (PI) and neg. (NI) ion modes were optimized for the anal. of 22 organophosphorus pesticides in honeybee samples. The extn. required 3 g of sample, which was extd. with acetone. The ext. was purified with coagulating soln. and reextd. with Cl2CH2. Pesticides studied could be detected by both ionization modes except for parathion, parathion-Me, and bromophos, which did not give signals in PI mode, and triazophos, which was not detected in NI mode. Fragmentation voltage and vaporizer temp. were optimized to achieve the highest sensitivity. The spectra profile of each pesticide in PI mode showed the [M + H]+ ion as the main signal, whereas in NI mode only fragment ions were shown. The detection limit obtained in selected ion monitoring mode ranged from 1 to 15 mg kg-1. The av. recoveries from spiked honeybees at various concn. levels (0.5-5 mg kg-1) exceeded 65% with relative std. deviations of 4-15%. The method was applied to real samples, in which residues of coumaphos and dimethoate were detected. [on SciFinder (R)] 0021-8561 organophosphorus/ pesticide/ LC/ atm/ pressure/ chem/ ionization/ MS

387. Ferrer, Imma, Fernandez-Alba, Amadeo, Zweigenbaum, Jerry A., and Thurman, E. Michael (2006). Exact-mass library for pesticides using a molecular-feature database. *Rapid Communications in Mass*

Spectrometry 20: 3659-3668.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2007:22375
Chemical Abstracts Number: CAN 146:265311
Section Code: 80-5
Section Title: Organic Analytical Chemistry
CA Section Cross-References: 17, 61
Document Type: Journal
Language: written in English.
Index Terms: Databases; Food analysis; HPLC; Pesticides; Time-of-flight mass spectrometry (exact-mass library using a mol.-feature database for pesticide anal. by HPLC-MS); Fruit; Vegetable; Waters (samples; exact-mass library using a mol.-feature database for pesticide anal. by HPLC-MS); Olive oil Role: AMX (Analytical matrix), ANST (Analytical study) (samples; exact-mass library using a mol.-feature database for pesticide anal. by HPLC-MS)
CAS Registry Numbers: 121-75-5; 122-34-9 (Simazine); 139-40-2 (Propazine); 148-79-8 (Thiabendazole); 314-40-9 (Bromacil); 330-54-1 (Diuron); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 1007-28-9 (Deisopropylatrazine); 1610-18-0 (Prometon); 1634-78-2 (Malathion oxon); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2163-68-0 (Hydroxyatrazine); 5915-41-3 (Terbuthylazine); 6190-65-4 (Deethylatrazine); 10605-21-7 (Carbendazim); 23564-05-8 (Thiophanate methyl); 35554-44-0 (Imazalil); 35554-44-0D (Imazalil); 36734-19-7 (Iprodione); 51218-45-2 (Metolachlor); 69327-76-0 (Buprofezin); 87674-68-8 (Dimethenamid); 119446-68-3 (Difenoconazole); 136426-54-5 (Fluquinconazole) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (exact-mass library using a mol.-feature database for pesticide anal. by HPLC-MS); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (samples; exact-mass library using a mol.-feature database for pesticide anal. by HPLC-MS)
Citations: 1) Wylie, P; Agilent Application Note 5989-5076EN 2006
Citations: 2) Ferrer, I; American Chemical Society Symposium 2003, 850
Citations: 3) Ferrer, I; TrAC 2003, 22, 750
Citations: 4) Baumann, C; Rapid Commun Mass Spectrom 2000, 14, 349
Citations: 5) Josephs, J; Rapid Commun Mass Spectrom 2004, 18, 743
Citations: 6) Gergov, M; Rapid Commun Mass Spectrom 2004, 18, 1039
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Citations: 13) Laks, S; Anal Chem 2004, 76, 7375
Citations: 14) Pelander, A; Anal Chem 2003, 75, 5710
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Citations: 16) Thurman, E; Environ Sci Technol 1992, 26, 2440
Citations: 17) Anon; EPA drinking water regulations, http://www.epa.gov/safewater/mcl.html
Citations: 18) Stolker, A; American Chemical Society Symposium 2003, 850, 32
Citations: 19) Ferrer, I; Anal Chem 2005, 77, 2818
Citations: 20) Ferrer, I; J Chromatogr A 2005, 1082, 81 An automated mol.-feature database (MFD) consisting of the exact monoisotopic mass of 100 compds., at least one exact mass product ion for each compd., and chromatog. retention time were used to identify pesticides in food and water samples. The MFD software compiles a list of accurate mass ions, excludes noise, and compares them with the monoisotopic exact masses in the database. The screening criteria consisted of +-5 ppm accurate mass window, +-0.2 min retention time window, and a min. 1000 counts (signal-to-noise (S/N) ratio of .apprx.10:1). The limit of detection for 100 tested compds. varied from <0.01 mg/kg for 72% of the compds. to <0.1 mg/kg for 95% of the compds. The

MFD search was useful for rapid screening and identification of pesticides in food and water, as shown in actual samples. The combined use of accurate mass and chromatog. retention time eliminated false positives in the automated anal. The major weakness of the MFD is matrix interferences and loss of mass accuracy. Strengths of the MFD include rapid screening of 100 compds. at sensitive levels compared with a manual approach and the ease of use of the library for any accurate mass spectrometer instrumentation capable of routine sub-5-ppm mass accuracy. [on SciFinder (R)] 0951-4198 pesticide/ analysis/ HPLC/ MS/ exact/ mass/ library/ database

388. Fialkov, Alexander B. and Amirav, Aviv (2003). Cluster chemical ionization for improved confidence level in sample identification by gas chromatography/mass spectrometry. *Rapid Communications in Mass Spectrometry* 17: 1326-1338.

<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:512627
Chemical Abstracts Number: CAN 139:223307
Section Code: 80-5
Section Title: Organic Analytical Chemistry
CA Section Cross-References: 73
Document Type: Journal
Language: written in English.
Index Terms: Ionization (Cluster; cluster chem. ionization for improved confidence level in sample identification by gas chromatog./mass spectrometry); Explosives (analytes; cluster chem. ionization for improved confidence level in sample identification by gas chromatog./mass spectrometry); Pesticides (carbamate, analytes; cluster chem. ionization for improved confidence level in sample identification by gas chromatog./mass spectrometry); Nitro compounds Role: ANT (Analyte), PRP (Properties), ANST (Analytical study) (explosives, analytes; cluster chem. ionization for improved confidence level in sample identification by gas chromatog./mass spectrometry); Mass spectrometry (gas chromatog. combined with; cluster chem. ionization for improved confidence level in sample identification by gas chromatog./mass spectrometry); Gas chromatography (mass spectrometry combined with; cluster chem. ionization for improved confidence level in sample identification by gas chromatog./mass spectrometry); Molecular beams (supersonic, cold electron ionization; cluster chem. ionization for improved confidence level in sample identification by gas chromatog./mass spectrometry)
CAS Registry Numbers: 55-63-0 (NG); 62-73-7 (Dichlorvos); 68-35-9 (Sulfadiazine); 78-11-5 (PETN); 116-06-3 (Aldicarb); 117-81-7 (DOP); 118-96-7 (TNT); 121-82-4 (RDX); 127-79-7 (Sulfamerazine); 479-45-8 (Tetryl); 732-11-6 (Phosmet); 1563-66-2 (Carbofuran); 1646-88-4 (Aldicarb Sulfone); 16752-77-5 (Methomyl); 17088-37-8; 23135-22-0 (Oxamyl); 25321-14-6 (DNT); 71172-32-2; 132997-94-5 Role: ANT (Analyte), PRP (Properties), ANST (Analytical study) (analyte; cluster chem. ionization for improved confidence level in sample identification by gas chromatog./mass spectrometry); 63-25-2 (Carbaryl); 114-26-1 (Propoxur); 1321-67-1 (Naphthalenol); 2032-65-7 (Methiocarb); 16655-82-6 (3-Hydroxycarbofuran) Role: ANT (Analyte), ANST (Analytical study) (cluster chem. ionization for improved confidence level in sample identification by gas chromatog./mass spectrometry); 64-17-5 (Ethanol); 67-56-1 (Methanol) Role: ARU (Analytical role, unclassified), PRP (Properties), ANST (Analytical study) (solvent; cluster chem. ionization for improved confidence level in sample identification by gas chromatog./mass spectrometry)
Citations: 1) Karasek, F; Basic Gas Chromatography-Mass Spectrometry 1988
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Citations: 3) Munson, M; J Am Chem Soc 1966, 88, 2621
Citations: 4) Michnowicz, J; Org Mass Spectrom 1970, 4, 481
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Citations: 11) Amirav, A; Advances In Mass Spectrometry 1998, 14, 529
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Citations: 14) Amirav, A; Org Mass Spectrom 1991, 26, 1
Citations: 15) Dagan, S; J Am Soc Mass Spectrom 1995, 6, 120
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Citations: 20) Kochman, M; J Chromatogr A 2002, 174, 185
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Citations: 30) Walsh, M; Talanta 2001, 54, 427
Citations: 31) Zhao, X; J Chromatogr A 2002, 977, 59
Citations: 32) Brittain, R; Am Lab 1994, 26, 44
Citations: 33) Brodbelt, J; Anal Chem 1987, 59, 1278
Citations: 34) Boswell, S; Int J Mass Spectrom Ion Processes 1990, 99, 139 Upon the supersonic expansion of helium mixed with vapor from an org. solvent (e.g. methanol), various clusters of the solvent with the sample mols. can be formed. As a result of 70 eV electron ionization of these clusters, cluster chem. ionization (cluster CI) mass spectra were obtained. These spectra were characterized by the combination of EI mass spectra of vibrationally cold mols. in the supersonic mol. beam (cold EI) with CI-like appearance of abundant protonated mols., together with satellite peaks corresponding to protonated or nonprotonated clusters of sample compds. with 1-3 solvent mols. Like CI, cluster CI preferably occurs for polar compds. with high proton affinity. However, in contrast to conventional CI, for nonpolar compds. or those with reduced proton affinity the cluster CI mass spectrum converges to that of cold EI. The appearance of a protonated mol. and its solvent cluster peaks, plus the lack of protonation and cluster satellites for prominent EI fragments, enable the unambiguous identification of the mol. ion. In turn, the insertion of the proper mol. ion into the NIST library search of the cold EI mass spectra eliminates those candidates with incorrect mol. mass and thus significantly increases the confidence level in sample identification. Also, mol. mass identification is of prime importance for the anal. of unknown compds. that are absent in the library. Examples are given with emphasis on the cluster CI anal. of carbamate pesticides, high explosives and unknown samples, to demonstrate the usefulness of Supersonic GC/MS (GC/MS with supersonic mol. beam) in the anal. of these thermally labile compds. Cluster CI is a practical ionization method, due to its ease-of-use and fast instrumental conversion between EI and cluster CI, which involves the opening of only one valve located at the make-up gas path. The ease-of-use of cluster CI is analogous to that of liq. CI in ion traps with internal ionization, and is in marked contrast to that of CI with most other std. GC/MS systems that require a change of the ion source. [on SciFinder (R)] 0951-4198 cluster/ chem/ ionization/ gas/ chromatog/ mass/ spectrometry;/ confidence/ level/ improvement/ cluster/ chem/ ionization/ GC/ MS

389. Fici, S. (2004). Micromorphological Observations on Leaf and Pollen of Capparis L. Sect. Capparis (Capparaceae). *Plant Biosystems, 138 (2) pp. 125-134, 2004.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 1126-3504

Descriptors: Cuticular striation
Descriptors: Disjunction
Descriptors: Paleotropical regions
Descriptors: Palynology
Descriptors: Trichomes
Abstract: Sect. Capparis is represented by a single species, Capparis spinosa L., divided into several intraspecific taxa showing plesiomorphic features and disjunct distributions in the Old World. Leaf surface and pollen features were investigated in the whole group by SEM and light microscope observations. The section is characterized by simple hairs, a reticulate to undulate cuticle, anomocytic stomata surrounded by a peristomal rim, and trizonocolporate, prolate pollen grains. The characteristics of the indumentum appear constant, while the studied taxa are fairly differentiated with respect to cuticular patterns and dimensions of the stomata, and show slight differences in pollen size and exine surface. This micromorphological evidence, coupled with other phenotypic features, supports the placement of this section at the base of the genus Capparis in the paleotropical area. Considering the striking geographic disjunction and symplesiomorphies of the group, its biogeographical and systematic aspects are also discussed.
59 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Subfile: Plant Science

390. Fiebig, M., Petzold, A., Wandinger, U., Wendisch, M., Kiemle, C., Stifter, A., Ebert, M., Rother, T., and Leiterer, U. (2002). Optical Closure for an Aerosol Column: Method, Accuracy, and Inferable Properties Applied to a Biomass-Burning Aerosol and Its Radiative Forcing. *Journal of Geophysical Research. D. Atmospheres [J. Geophys. Res. (D Atmos.)]. Vol. 107, no. D21, [np]. 16 Nov 2002.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

ISSN: 0148-0227
Descriptors: Article Subject Terms: Aerosol measurement techniques
Descriptors: Aerosol vertical distribution
Descriptors: Aerosols
Descriptors: Aerosols from biomass burning
Descriptors: Air pollution
Descriptors: Airborne sensing
Descriptors: Albedo
Descriptors: Atmospheric chemistry
Descriptors: Atmospheric particulates
Descriptors: Biomass
Descriptors: Chemical pollutants
Descriptors: Ocean-atmosphere system
Descriptors: Optical analysis
Descriptors: Optical depth of aerosols
Descriptors: Optical properties
Descriptors: Particulates
Descriptors: Pollution detection
Descriptors: Pollution dispersion
Descriptors: Size distribution
Descriptors: Soot
Descriptors: Sulfuric acid
Descriptors: Tropopause

Descriptors: Article Geographic Terms: Germany
Descriptors: Germany, Brandenberg, Lindenberg
Descriptors: Germany, Lindenberg
Descriptors: INE, North America
Descriptors: North America
Abstract: During the Lindenberg Aerosol Characterization Experiment (LACE 98), airborne measurements of aerosol size distribution, fine-particle concentration, particle absorption coefficient, backscatter coefficient, depolarization, and chemical composition as well as ground-based measurements of spectral particle optical depth and of spectral backscatter and extinction coefficients were performed in the aerosol column above Lindenberg, Germany. We compare the measured optical parameters with calculations from the size distributions, which assume the aerosol to consist of sulfuric acid near the tropopause and mixtures of ammonium sulfate and soot in the remaining column. We obtain closure to within 25% for the optical depth of a column, which includes a biomass-burning aerosol of North American origin, and infer a soot volume fraction of 35% for this aerosol. Assuming spheroidal particles of prolate shape and the average aspect ratio of the particles to be 1.3 in the biomass-burning aerosol layer, the calculated depolarization agrees with the lidar measurement, whereas comparing the spectral backscatter coefficient shows the soot to be externally mixed with the nonabsorbing particles. With the two-stream approximation, we estimate the local, instantaneous, cloud-free radiative forcing of the biomass-burning aerosol at the tropopause to -5.8 W/m super(2) with a corresponding optical depth of 0.09 at 710 nm wavelength and solar zenith angle of 56 degree . The radiative forcing for the biomass-burning aerosol is as sensitive to a change in state of mixture, either external or internal, as to a change in surface albedo, ocean to coniferous forest.
Other numbers: Citation Number 8130
DOI: 10.1029/2000JD000192
Language: English
English
Publication Type: Journal Article
Environmental Regime: Marine; Brackish; Freshwater
Classification: M2 551.501 Methods of Observation/Computations (551.501)
Classification: P 0000 AIR POLLUTION
Classification: EE 20 Air Pollution: Monitoring, Control & Remediation
Classification: Q5 01501 General
Classification: O 4060 Pollution - Environment
Subfile: Environmental Engineering Abstracts; Oceanic Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Meteorological & Geoastrophysical Abstracts

391. Field, Richard, Masters, Hugh, and Singer, Melvin (1982). Status of porous pavement research. *Water Research* 16: 849-858.
Chem Codes: Chemical of Concern: PSM Rejection Code: METHODS.

This paper discusses the U.S. Environmental Protection Agency's porous pavement research program along with the economics, advantages, potential applications, and status and future research needs of porous pavements. Porous pavements are an available stormwater management technique which can be used on parking lots and low volume roadways to reduce both stormwater runoff volume and pollution. In addition, groundwater recharge is enhanced. Also, cost reductions result due to elimination of curbs, drains, and small sized storm sewers. Porous asphalt pavements consist of a relatively thin course of open graded asphalt mix over a deep base of large size crushed stones. Water can be stored in the crushed stone base until it can percolate into the subbase or drain laterally. Other porous pavement types include concrete lattice blocks and a porous concrete mix. http://www.sciencedirect.com/science/article/B6V73-48BDNP1-RK/2/34bc9c6796097a14030fc962dfc7b359

392. Filleul, L. , Baldi, I., Quenel, P., Brochard, P., and Tessier, J. F. (Long-Term Air Pollution Indicator Assessment: Example of Black Smoke in Bordeaux, France. *J expo anal environ epidemiol. 2002, may; 12(3):226-31. [Journal of exposure analysis and environmental epidemiology]: J Expo Anal*

Environ Epidemiol.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: The aim of the second phase of the Pollution Atmosphérique et Affections Respiratoires Chroniques (PAARC) study, started in 1974, was to compare the long-term mortality between populations living in areas with different air pollution levels. In Bordeaux (France), four different areas were concerned by the study. The black smoke measures were realized between 1974 and 1981. After 1981, the stations set specifically for the study were not used any more. The purpose of this study was to estimate the evolution of air pollution in those areas between 1982 and 1997 using the measures of 12 Association de Prévention de la Pollution Atmosphérique (APPA) stations located in Bordeaux city but not in the PAARC areas. The method used was divided in three phases: a correlation study between the stations of the different networks, a selection of the pertinent stations and the setting up of indicators using the arithmetic means method. Monthly means concentrations were estimated from January 1982 to December 1997. Models showed a decrease in black smoke levels whatever the area. The difference in level from one area to another, existing between the areas in 1974, was still with predicted values in 1997, but less important. Black smoke mean concentration for 1982-1997 was, respectively, 16.4 and 16.2 microg/m3, in areas 1 and 2. It was a little bit higher in area 3 with 18.9 microg/m3. Area 4 still has the highest level with 26.3 microg/m3. To conclude, this method enabled to assess different air pollution levels at different times in the four areas of the PAARC study in Bordeaux. Those levels could be used to study the impact of the air pollution on long-term mortality on populations living in the areas considered.
MESH HEADINGS: Air Pollution/adverse effects/statistics &amp
MESH HEADINGS: numerical data
MESH HEADINGS: Environmental Exposure/*adverse effects/*statistics &amp
MESH HEADINGS: numerical data
MESH HEADINGS: *Environmental Health
MESH HEADINGS: France
MESH HEADINGS: Humans
MESH HEADINGS: Life Expectancy
MESH HEADINGS: Longitudinal Studies
MESH HEADINGS: Mortality/*trends
MESH HEADINGS: Risk Assessment
MESH HEADINGS: Seasons
MESH HEADINGS: Urban Health
MESH HEADINGS: Vehicle Emissions/*adverse effects
LANGUAGE: eng

393. Fillion, Julie, Sauve, Francois, and Selwyn, Jennifer (2000). Multiresidue method for the determination of residues of 251 pesticides in fruits and vegetables by gas chromatography/mass spectrometry and liquid chromatography with fluorescence detection. *Journal of AOAC International* 83: 698-713.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:404866
Chemical Abstracts Number: CAN 133:134357
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Fluorescence (detection; multiresidue method for detn. of residues of 251 pesticides in fruits and vegetables by gas chromatog./mass spectrometry and liq. chromatog. with fluorescence detection); Mass spectrometry; Mass spectrometry (gas chromatog. combined with; multiresidue method for detn. of residues of 251 pesticides in fruits and vegetables by gas chromatog./mass spectrometry and liq. chromatog. with fluorescence detection); Gas

chromatography; Gas chromatography (mass spectrometry combined with; multiresidue method for detn. of residues of 251 pesticides in fruits and vegetables by gas chromatog./mass spectrometry and liq. chromatog. with fluorescence detection); Apple; Banana; Cabbage; Carrot; Cucumber; Food analysis; Food contamination; Fruit; Lettuce; Liquid chromatography; Orange; Pear; Pepper; Pesticides; Pineapple; Poplar; Vegetable (multiresidue method for detn. of residues of 251 pesticides in fruits and vegetables by gas chromatog./mass spectrometry and liq. chromatog. with fluorescence detection)
CAS Registry Numbers: 50-29-3; 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (DDD); 72-55-9; 72-56-0 (Ethylan); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8 (Tribufos); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 90-43-7 (o-Phenylphenol); 93-71-0 (Allidochlor); 95-06-7 (Sulfallate); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 103-17-3 (Chlorbenside); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 126-75-0 (Demeton-S); 133-06-2 (Captan); 133-07-3 (Folpet); 136-25-4 (Erbon); 139-40-2 (Propazine); 140-57-8 (Aramite); 141-66-2 (Dicrotophos); 152-16-9 (Schradan); 298-00-0 (Parathion-methyl); 298-01-1 (cis-Mevinphos); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 314-40-9 (Bromacil); 315-18-4 (Mexacarbate); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-HCH); 330-55-2 (Linuron); 333-41-5 (Diazinon); 338-45-4 (trans-Mevinphos); 470-90-6 (Chlorfenvinphos); 500-28-7 (Chlorthion); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 584-79-2 (Allethrin); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 789-02-6; 834-12-8 (Ametryne); 841-06-5 (Methoprotryne); 886-50-0; 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 953-17-3 (Methyl trithion); 957-51-7 (Diphenamid); 959-98-8 (a-Endosulfan); 1014-69-3 (Desmetryne); 1014-70-6 (Simetryn); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1634-78-2 (Malaoxon); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1698-60-8 (Chloridazon); 1746-81-2 (Monolinuron); 1836-75-5 (Nitrofen); 1861-32-1 (Chlorthal-dimethyl); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-13-4 (Chlorthiamid); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2179-25-1 (Methiocarb sulfone); 2227-13-6 (Tetrasul); 2303-16-4 (Di-allate); 2303-17-5 (Tri-allate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2536-31-4 (Chlorflurecol-methyl); 2593-15-9 (Etridiazole); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2635-10-1 (Methiocarb sulfoxide); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2675-77-6 (Chloroneb); 2921-88-2 (Chlorpyrifos); 3060-89-7 (Metobromuron); 3689-24-5 (Sulfotep); 4726-14-1 (Nitralin); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6164-98-3 (Chlordimeform); 6190-65-4 (Desethylatrazine); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 8065-36-9 (Bufencarb); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10552-74-6 (Nitrothal-isopropyl); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 15310-01-7 (Benodanil); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16118-49-3 (Carbetamide); 16655-82-6 (3-Hydroxycarbofuran); 17109-49-8 (Edifenphos); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 19666-30-9 (Oxadiazon); 21087-64-9 (Metribuzin); 21564-17-0 (TCMTB); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 22212-55-1 (Benzoylprop-ethyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 22936-86-3 (Cyprazine); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 26225-79-6

(Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 27304-13-8 (Oxychlordane); 27314-13-2 (Norflurazon); 28249-77-6 (Thiobencarb); 29091-05-2 (Dinitramine); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34643-46-4 (Prothiofos); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 37764-25-3 (Dichlormid); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51338-27-3 (Diclofop-methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52756-22-6 (Flamprop-isopropyl); 52756-25-9 (Flamprop-methyl); 52918-63-5 (Deltamethrin); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 60238-56-4 (Chlorthiophos); 61213-25-0 (Flurochloridone); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 66246-88-6 (Penconazole); 67129-08-2 (Metazachlor); 67747-09-5 (Prochloraz); 68359-37-5 (Cyfluthrin); 71626-11-4 (Benalaxyl); 77732-09-3 (Oxadixyl); 81777-89-1 (Clomazone); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue method for detn. of residues of 251 pesticides in fruits and vegetables by gas chromatog./mass spectrometry and liq. chromatog. with fluorescence detection)
Citations: 1) Neidert, E; J AOAC Int 1996, 79, 549
Citations: 2) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 3) Steinwandter, H; Fresenius Z Anal Chem 1985, 322, 752
Citations: 4) Lee, S; Fresenius Z Anal Chem 1991, 339, 376
Citations: 5) Krause, R; J Assoc Off Anal Chem 1980, 63, 1114
Citations: 6) Health and Welfare Canada; Analytical Methods for Pesticide Residues in Food 1990
Citations: 7) Erney, D; J Chromatogr 1993, 638, 57
Citations: 8) Erney, D; J High Resolut Chromatogr Chromatogr Commun 1993, 16, 501
Citations: 9) Chaput, D; J Assoc Off Anal Chem 1988, 71, 542 A method is described for the detn. of 251 pesticide and degrdn. product residues in fruit and vegetable samples. Extn. of the sample with acetonitrile is followed by a salting-out step. Co-extractives are removed by passing a portion of the acetonitrile ext. through an octadecyl (C18) solid-phase extn. cleanup cartridge and then, in a 2nd cleanup, through a carbon cartridge coupled to an amino Pr cartridge. Detn. is by gas chromatog. with mass-selective detection in the selected-ion monitoring mode, and by liq. chromatog. with post-column reaction and fluorescence detection for N-Me carbamates. The method has been used for anal. of various fruits and vegetables, such as apple, banana, cabbage, carrot, cucumber, lettuce, orange, pear, pepper, and pineapple. Limits of detection range between 0.02 and 1.0 mg/kg for most compds. Over 80% of the compds. have a limit of detection of ?0.04 mg/kg. [on SciFinder (R)] 1060-3271 pesticide/ residue/ detn/ fruit/ vegetable/ GC/ MS

394. Fine(acute)r, L., Aphalo, P., Kettunen, U., Leinonen, I., Mannerkoski, H., O(dieresis)hman, J., Repo, T., and Ryyppo(dieresis), A. (2001). The Joensuu Dasotrons: a New Facility for Studying Shoot, Root, and Soil Processes. *Plant and Soil, 231 (1) pp. 137-149, 2001*.
Chem Codes: Chemical of Concern: PSM Rejection Code: METHODS.

ISSN: 0032-079X
Descriptors: Controlled environment
Descriptors: Phytotron
Descriptors: Rhizotron
Descriptors: Tree root
Abstract: A new, controlled, environment facility for growing trees was built at Joensuu, Finland, between 1996 and 1998. It consists of four large rooms called dasotrons, with four large root pots in each. Each room is a separate unit, with independent control of air and soil temperature, air humidity and light. The environmental variables can be controlled to simulate conditions ranging from tropical to boreal. The controller set-points can be programmed locally or through a central

control system running on a PC. The floor area and height of the rooms allows us to grow small trees (up to 3.7 m height) for several growing seasons. In each dasotron, there are four cylindrical pots with a removable upper section. There are access holes in the walls of the pots for the installation of sensors and minirhizotron tubes. Each pot has a drain, with valves, at the bottom to enable the removal of excess water or the collection of percolate samples. The operation of the facility was tested during one simulated annual growing cycle. During this test period, the dasotrons worked reliably and no systematic differences were found in the environmental conditions or in the growth of Norway spruce seedlings between the dasotrons. This new facility will enable diverse physiological and ecophysiological studies to be carried out on the responses of trees to their below- and above-ground environment.
16 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.7.1.3 DEVELOPMENT: Vegetative Development: Organ development
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science
Classification: 92.13.1.6 ENVIRONMENTAL BIOLOGY: Ecology: Interactions with environment
Subfile: Plant Science

395. Fischer-Colbrie, P. (1988). Approved Active Substances for Austrian Fruit Growing and Their Side Effects. *Pflanzenschutz (vienna)* 0: 13-15.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM PREDATORY MITE NEUROPTERA HEMIPTERA ICHNEUMON FLIES INSECTICIDE FUNGICIDE ACARICIDE BIOLOGICAL CONTROL
MESH HEADINGS: ECOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PREVENTIVE MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL, BIOLOGICAL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HEMIPTERA
MESH HEADINGS: HYMENOPTERA
MESH HEADINGS: INSECTS
MESH HEADINGS: ARTHROPODS

KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Horticulture-General
KEYWORDS: Phytopathology-Disease Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Biological Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Hemiptera
KEYWORDS: Hymenoptera
KEYWORDS: Neuroptera
KEYWORDS: Acarina
LANGUAGE: ger

396. Fischer-Colbrie, P. (1987). Approved Agents for Use in Austrian Horticulture and Their Side Effects on Beneficial Organisms. *Pflanzenschutz (vienna)* 0: 8-12.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM PREDATORY MITES LACEWINGS SYRPHIDS LADYBIRDS ICHNEUMONIDS ACARICIDES INSECTICIDES
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL, BIOLOGICAL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: COLEOPTERA
MESH HEADINGS: DIPTERA
MESH HEADINGS: HYMENOPTERA
MESH HEADINGS: INSECTS
MESH HEADINGS: ARTHROPODS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Biological Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Coleoptera
KEYWORDS: Diptera
KEYWORDS: Hymenoptera
KEYWORDS: Neuroptera
KEYWORDS: Acarina
LANGUAGE: ger

397. Fischer-Colbrie, P. (1988). Review of Active Substances and Approved Commercial Preparations Available for Plant Protection in Fruit Growing. *Pflanzenschutz (vienna)* 0: 6-12.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM FUNGUS MITE ANIMAL PEST INSECTICIDE FUNGICIDE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: FUNGI
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PREVENTIVE MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: FUNGI
MESH HEADINGS: PLANTS
MESH HEADINGS: ANIMALS
MESH HEADINGS: ARTHROPODS
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Horticulture-General
KEYWORDS: Phytopathology-Diseases Caused by Fungi
KEYWORDS: Phytopathology-Disease Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Fungi-Unspecified
KEYWORDS: Angiospermae
KEYWORDS: Animalia-Unspecified
KEYWORDS: Acarina
LANGUAGE: ger

398. Fischer-Colbrie, P. (1987). Review of Agents and Approved Commercial Preparations Available for Plant Protection in Horticulture. *Pflanzenschutz (vienna)* 0: 2-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM APPLES BERRIES STONE FRUITS FUNGI MITES INSECTS FUNGICIDES INSECTICIDES LISTS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: FRUIT
MESH HEADINGS: FUNGI
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PREVENTIVE MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS

MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: FUNGI
MESH HEADINGS: PLANTS, MEDICINAL
MESH HEADINGS: INSECTS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Horticulture-Small Fruits
KEYWORDS: Phytopathology-Diseases Caused by Fungi
KEYWORDS: Phytopathology-Disease Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Fungi-Unspecified
KEYWORDS: Rosaceae
KEYWORDS: Insecta-Unspecified
LANGUAGE: ger

399. Flicker, P. F., Milligan, R. A., and Applegate, D. (1991). Cryo-electron microscopy of S1-decorated actin filaments. *Advances in Biophysics* 27: 185-196.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO, CHEM METHODS.

We have applied techniques for cryo-electron microscopy, combined with image processing, to both S1-decorated native thin filaments and S1-decorated actin filaments. In our reconstruction the actin subunit has a prolate ellipsoid shape and is composed of two domains. The long axis of the monomer lies roughly perpendicular to the filament axis. The myosin head (S1) approaches the actin filament tangentially, the major interaction being with the outermost domain of actin. To distinguish the position of tropomyosin unambiguously in our map, we compared the maps from decorated thin filaments with those from decorated actin filaments. Our difference map clearly shows a peak corresponding to the position of tropomyosin; tropomyosin is bound to the inner domain of actin just in front of the myosin binding site at a radius of about 40 A. As a first step toward looking at the actomyosin structure in a state other than rigor, we examined S1 crosslinked to actin filaments by the zero-length crosslinker EDC in the presence of ATP and after pPDM bridging of the reactive thiols of S1. S1 molecules of the crosslinked complexes in the presence of ATP and after pPDM treatment appear dramatically different from those in rigor. The S1s appear more disordered and no longer assume the characteristic rigor 45[degree sign] angle with the actin filaments. http://www.sciencedirect.com/science/article/B6T3S-47MJHMB-18/2/35096a64cf1102dd0d3597e7652c0c90

400. Flugge, U. I. (1985). Hydrodynamic properties of the Triton X-100-solubilized chloroplast phosphate translocator. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 815: 299-305.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

The molecular weight of the phosphate translocator isolated from spinach envelope membranes was measured in the nonionic detergent Triton X-100. The Stoke's radius of the protein-detergent complex was estimated by gel filtration. The partial specific volume was estimated by equilibrium centrifugation and by differential sedimentation in sucrose gradients containing H2O and 2H2O and the sedimentation coefficient was estimated from the same centrifugation experiments. The phosphate translocator-Triton X-100 complex has an apparent molecular weight of 177 500. Its high partial specific volume (0.86 cm3/g) suggests that bound detergent contributes significantly to the mass. Correcting for the bound detergent (1.9 g/g protein), a molecular weight of 61 000 for

the protein moiety of the complex was calculated. These results suggest that the isolated phosphate translocator exists as a dimer. The shape of the dimer is described as a prolate ellipsoid of revolution with semiaxes calculated to be 6.59 and 1.59 nm in length. Phosphate translocator/ Triton X-100/ Hydrodynamic property/ Detergent solubilization/ (Spinach chloroplast)
http://www.sciencedirect.com/science/article/B6T1T-486TC2H-90/2/1f5dc7a1041c8a4fbf86e295855b97a8

401. Fodor-Csorba, K. (1992). Chromatographic Methods for the Determination of Pesticides in Foods. *J chromatogr* 624: 353-367.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW FOOD RESIDUE ANALYTICAL METHOD DETECTION CHROMATOGRAPHY ENVIRONMENT
MESH HEADINGS: BIOLOGY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: COMPARATIVE STUDY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: ENVIRONMENTAL MONITORING
MESH HEADINGS: PUBLIC HEALTH
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Methods
KEYWORDS: Comparative Biochemistry
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Studies
KEYWORDS: Food Technology-General
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Food Technology-Preparation
KEYWORDS: Toxicology-Foods
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health-Public Health Laboratory Methods
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

402. Foroni, Roberto, Gerosa, Massimo, Pasqualin, Alberto, Hoch, Jeffrey, Giri, Grazia, Pasoli, Armando,

Nicolato, Antonio, Piovan, Enrico, Zampieri, Piergiuseppe, and Lonardi, Stefano (1996). Shape recovery and volume calculation from biplane angiography in the stereotactic radiosurgical treatment of arteriovenous malformations. *International Journal of Radiation Oncology*Biology*Physics* 35: 565-577.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

: A model for calculating the three-dimensional volume of arteriovenous malformations from biplane angiography. : Three-dimensional (3D) volume reconstruction is easily feasible with axial, coronal, or sagittal computer tomography (CT) and nuclear magnetic resonance (NMR) scans. On the other hand, radiosurgicals treatment of arteriovenous malformations (AVM) is exclusively based on two orthogonal stereotactic projections, obtained with angiographic procedures. Most commonly, AVM volumes have been calculated by assimilating the nidus volume to a prolate ellipsoid. We present an algorithm dedicated to 3D structure reconstruction starting from two orthogonal stereotactic projections. This has been achieved using a heuristic approach, which has been widely adopted in the artificial intelligence domain. : Tests on phantom of different complexity have shown excellent results. : The importance of the algorithm is considerable. As a matter of fact: (a) it allows calculations of complex structures far away from regular ellipsoid; (b) it permits shape recovery; (c) it provides AVM visualization on axial planes. Gamma knife radiosurgery/ AVM/ Isodose volumes/ 3D reconstruction
http://www.sciencedirect.com/science/article/B6T7X-48B59BN-P/2/be2495aadbf4308eb61fed3d67d6cdbf

403. Foss, J. M. , Frey, M. F., Schamberger, M. R., Peters, J. E., and Leong, K. H. (1989). Collection of uncharged prolate spheroidal aerosol particles by spherical collectors--I: 2D motion. *Journal of Aerosol Science* 20: 515-532.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The dynamics of prolate spheroidal particles are examined in relation to collisions with a 30 [mu]m radius collector droplet. The rotations of the particles along their trajectories are determined for different particle aspect ratios. The initial particle orientation and position with respect to the collector and the particle rotational inertia are found to have strong influences on the collision efficiencies. Large differences in efficiency can occur for particles if the aerodynamic size is defined at different particle orientations. Capture of prolate spheroidal particles on the downstream side of the collector can occur in the absence of attractive forces in contrast to the case of spherical particles. http://www.sciencedirect.com/science/article/B6V6B-4887W9T-5J/2/3a3cbceeb578a87f2910f2bfeb1fcee2

404. Foster, N. W. (1985). Acid precipitation and soil solution chemistry within a maple-birch forest in Canada. *Forest Ecology and Management* 12: 215-231.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Ion concentrations in water collected within a hardwood forest at Turkey Lakes Watershed, Ont. (Lat. 47[degree sign] 03'N, Long. 84[degree sign] 15'W) were examined in relation to those in precipitation at the watershed and at other places in eastern Canada. The mean annual concentration of Ca2+, Mg2+, K+, Na+, H+, NH4+, NO3-, SO42-, Cl- and HCO3- in precipitation, throughfall, forest floor percolate and mineral soil solution were evaluated, and the annual flux of H+, NO3-, SO42- and base cations was calculated. The annual input of cations by bulk precipitation was only a small proportion (17%) of the flux collected below the forest floor. The deposition of SO42- and NO3- in bulk precipitation accounted for 85 and 45%, respectively, of the forest floor fluxes of these ions. The annual flux of H+ in throughfall was less than that in precipitation. Calcium and Mg2+ concentrations in soil solution were highly correlated (P = 0.05) with NO3- during the dormant season and Ca2+ was highly correlated with SO42- during the growing season. Both SO42- and NO3- were largely unreactive with minerals in the Turkey Lakes soil and therefore play a dominant role in cation movement through the soil.
http://www.sciencedirect.com/science/article/B6T6X-48XMP0J-2C/2/59f62d7d499ed372c61ed6481139d483

405. Franc, M. (1994). Lice and Control Methods. *Uilenberg, g. Revue scientifique et technique office international des epizooties, vol. 13. No. 4. Ectoparasites of animals and control methods; (scientific and technical review international office of epizootics, vol. 13. No. 4. Ectoparasites of animals and control methods). 458p. Office international des epizooties (oie): paris, france.* 1039-1051.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW, NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER INSECTICIDE
MESH HEADINGS: ANATOMY
MESH HEADINGS: ANIMAL DISEASES/PATHOLOGY
MESH HEADINGS: ANIMAL DISEASES/PHYSIOPATHOLOGY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMALS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ANIMAL
MESH HEADINGS: ANIMALS, DOMESTIC
MESH HEADINGS: ANIMALS, ZOO
MESH HEADINGS: PARASITIC DISEASES/VETERINARY
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: INVERTEBRATES
MESH HEADINGS: ANIMALS
MESH HEADINGS: ANOPLURA
MESH HEADINGS: MALLOPHAGA
KEYWORDS: Anatomy and Histology
KEYWORDS: Veterinary Science-Pathology
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Animal Pests
KEYWORDS: Parasitology-Veterinary
KEYWORDS: Invertebrata
KEYWORDS: Invertebrate Body Regions and Structures-General (1971-)
KEYWORDS: Animalia-Unspecified
KEYWORDS: Anoplura
KEYWORDS: Mallophaga
LANGUAGE: fre

406. France, Richard M., Sellers, Debra S., and Grossman, Steven H. (1997). Purification, Characterization, and Hydrodynamic Properties of Arginine Kinase from Gulf Shrimp (Penaeus aztecus). *Archives of Biochemistry and Biophysics* 345: 73-78.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Arginine kinase from the tail muscle of the Gulf shrimp (Penaeus aztecus) was purified to apparent homogeneity, using a rapid, high-yield method. The protein exhibits a molecular weight of 40 kDa according to the methods of gel filtration and gel electrophoresis in sodium dodecyl sulfate, also indicating that arginine kinase from shrimp is a monomer. The amino acid content of arginine kinase from shrimp is similar to arginine kinases from several species and to creatine kinase from rabbit muscle. Arginine kinase derivatized at the reactive sulfhydryl with 2-(4'-(iodoacetamido)anilino)naphthalene-6-sulfonic acid exhibits significant changes in fluorescence anisotropy only in the presence of the guanidino substrate and the so-called "dead-end complex" containing arginine + MgADP. Several compounds structurally similar to arginine, e.g., ornithine do not interact with arginine kinase, suggesting a narrow specificity for substrate binding. The most suitable description of the decay of the fluorescence of arginine kinase derivatized with 5-[(((acetyl)-amino)ethyl)amino]naphthalene-1-sulfonate (AEDANS-AK), from among discrete and distributed models, is a triple exponential discrete decay. The presence of the dead-end complex only marginally increases the rate of decay, but significantly shifts the magnitude of the preexponentials (amplitudes) between the two major decay components. One interpretation of these results is that multiple conformational isomers may occur, in which the relative concentrations are dependent upon the presence of the dead-end complex. Measurement of the time-dependent anisotropy decay of AEDANS-AK reveals a two-term decay law with rotational correlation times of 0.88 and 15.2 ns. The slower component is close to the theoretical value of 16.7 ns for an isotropic rotator of the molecular mass of arginine kinase. This finding suggests that the overall conformation of arginine kinase may differ considerably from the prolate ellipsoidal subunits of the functionally analogous creatine kinase. arginine kinase; purification; fluorescence; characterization; conformation http://www.sciencedirect.com/science/article/B6WB5-45MH0PS-65/2/fb48d84b12293a97ab9c5a19433b441e

407. Frank, R., Braun, H. E., Chapman, N., and Burchat, C (1991). Degradation of parent compounds of nine organophosphorus insecticides in Ontario surface and ground waters under controlled conditions. *Bulletin of Environmental Contamination and Toxicology* 47: 374-80.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:541855
Chemical Abstracts Number: CAN 115:141855
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Water pollution (by organophosphorus insecticides, degrdn. in, temp. effect on); Decomposition (of organophosphorus insecticides, in water, temp. effect on); Insecticides (organophosphorus, degrdn. of, in water, temp. effect on)
CAS Registry Numbers: 60-51-5 (Dimethoate); 115-90-2 (Fensulfothion); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8; 2921-88-2; 7786-34-7 (Mevinphos); 13071-79-9 (Terbufos) Role: PRP (Properties) (degrdn. of, in water, temp. effect on) Organophosphorus insecticide degrdn. in surface water and groundwater samples resulted in the decrease of phosmet concns. from 50 to 0.1 mg/L in 1-2 days, terbufos concns. to 0.1 mg/L in 17 days, and fensulfothion and meviphos to 0.1 mg/L in 164 days. Diazinon and dimethoate had a half-life of 67 and 99 days, resp. The degrdn. rates were significantly affected by temp. [on SciFinder (R)] 0007-4861 insecticide/ degrdn/ groundwater/ surface/ water;/ pollution/ surface/ water/ groundwater/ insecticide;/ organophosphorus/ insecticide/ degrdn/ water/ pollution

408. Frank, R., Braun, H. E., Clegg, B. S., Ripley, B. D., and Johnson, R (1990). Survey of farm wells for pesticides, Ontario, Canada, 1986 and 1987. *Bulletin of Environmental Contamination and Toxicology* 44: 410-19.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1990:185414
Chemical Abstracts Number: CAN 112:185414
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal

Language: written in English.
Index Terms: Water pollution (by pesticides, of groundwater, in rural areas, in Ontario); Herbicides; Insecticides; Pesticides (groundwater pollution by, in rural areas, in Ontario); Fungicides and Fungistats (agrochem., groundwater pollution by, in rural areas, in Ontario)
CAS Registry Numbers: 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 61-82-5 (Amitrole); 63-25-2 (Carbaryl); 86-50-0 (Azinphosmethyl); 93-65-2 (Mecoprop); 93-71-0 (Allidochlor); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 94-82-6 (2,4-DB); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 120-36-5 (Dichlorprop); 121-75-5 (Malathion); 122-34-9 (Simazine); 133-06-2 (Captan); 133-90-4 (Chloramben); 137-26-8 (Thiram); 298-02-2 (Phorate); 301-12-2 (Oxydemeton-methyl); 330-55-2 (Linuron); 333-41-5 (Diazinon); 542-75-6 (1-3-Dichloropropene); 556-61-6; 732-11-6 (Phosmet); 759-94-4 (EPTC); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1071-83-6 (Glyphosate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1689-84-5 (Bromoxynil); 1746-81-2 (Monolinuron); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 2008-41-5 (Butylate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2921-88-2 (Chlorpyrifos); 3060-89-7 (Metobromuron); 4685-14-7 (Paraquat); 5234-68-4 (Carbathiin); 5902-51-2 (Terbacil); 7440-50-8 (Copper); 7704-34-9 (Sulfur); 8018-01-7 (Mancozeb); 8065-48-3 (Demeton); 9006-42-2 (Metiram); 12122-67-7 (Zineb); 12427-38-2 (Maneb); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 14484-64-1 (Ferbam); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 25057-89-0 (Bentazon); 30560-19-1 (Acephate); 36734-19-7 (Iprodione); 39300-45-3 (Dinocap); 42874-03-3 (Oxyfluorfen); 51218-45-2 (Metolachlor); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 57837-19-1 (Metalaxyl); 74051-80-2 (Sethoxydim) Role: POL (Pollutant), OCCU (Occurrence) (groundwater pollution by, in rural areas, in Ontario) Water samples from wells in rural areas in Ontario, Canada, were analyzed for herbicides, insecticides, and fungicides. In 1986, 10 wells contained pesticide residues and in 1987 the no. was 4. Atrazine and its metabolite desethyl atrazine appeared in 9 of 10 wells in 1986. [on SciFinder (R)] 0007-4861 groundwater/ pollution/ pesticide/ Ontario

409. Frank, R., Braun, H. E., and Ripley, B. D. (1989). Monitoring Ontario Canada Grown Apples for Pest Control Chemicals Used in Their Production 1978-86. *Food addit contam* 6: 227-234.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM FRUITS AGRICULTURE PESTICIDES FOOD RESIDUE
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: COMPARATIVE STUDY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: VEGETABLES
MESH HEADINGS: PLANT DISEASES

MESH HEADINGS: PREVENTIVE MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS, MEDICINAL
KEYWORDS: Comparative Biochemistry
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Food Technology-Preparation
KEYWORDS: Toxicology-Foods
KEYWORDS: Plant Physiology
KEYWORDS: Horticulture-Vegetables
KEYWORDS: Phytopathology-Disease Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Rosaceae
LANGUAGE: eng

410. Frank, R., Braun, H. E., and Ripley, B. D (1989). Monitoring Ontario-grown apples for pest control chemicals used in their production, 1978-86. *Food Additives & Contaminants* 6: 227-34.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1989:191419
Chemical Abstracts Number: CAN 110:191419
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food contamination (by pesticide residues, of apples of Canada); Insecticides; Pesticides (of apples, of Canada); Plant hormones and regulators Role: BIOL (Biological study) (of apples, of Canada, food contamination in relation to); Apple (pesticide residues of, in Canada); Fungicides and Fungistats (agrochem., of apples, of Canada)
CAS Registry Numbers: 56-38-2 (Parathion); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 86-50-0 (Azinphosmethyl); 87-86-5 (Pentachlorophenol); 93-72-1 (Fenoprop); 94-75-7 (2,4-D); 111-54-6 (EBDC); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 121-75-5 (Malathion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1596-84-5 (Daminozide); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 8018-01-7 (Mancozeb); 8065-48-3 (Demeton); 9006-42-2 (Metiram); 23103-98-2 (Pirimicarb); 25167-83-3 (Tetrachlorophenol); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin) Role: BIOL (Biological study) (of apples, of Canada) Between 1978 and 1986, 305 samples of apples were monitored for the residues of a wide range of pesticides used in their prodn. Three (1%) contained residues above the max. residue limits (MRL) permitted under the Canadian Food and Drug Act and regulations; two involved phosalone at 5.9 and 6.2 mg/kg resp. and one involved diphenylamine at 6.7 mg/kg when the MRL was 5.0 mg/kg for both compds. Low residues of dicofol, endosulfan, phosalone, phosmet, captan, daminozide, and diphenylamine were frequently found; however they were well below the MRLs. These residue levels were correlated with survey data on the areas of the apple crop treated with specific pesticides. Residues of carbaryl, diazinon, ethion, azinphosmethyl, parathion, and dithiocarbamate fungicides were found occasionally; all were well below the MRLs and correlated with the pattern of use. No residues of PCB were found to a limit of detection of 0.01 mg/kg. [on SciFinder (R)] 0265-203X apple/ pesticide/ Canada

411. Frank, R., Braun, H. E., and Ripley, B. D (1990). Residues of insecticides, and fungicides in fruit produced in Ontario, Canada, 1986-1988. *Food Additives and Contaminants* 7: 637-48.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:183979
Chemical Abstracts Number: CAN 114:183979
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5, 16
Document Type: Journal
Language: written in English.
Index Terms: Food contamination (by fungicides and insecticides, of fruit, of Ontario, Canada); Apple; Blueberry; Cherry; Fruit; Grape; Peach; Pear; Raspberry; Strawberry; Wine (fungicides and insecticides of, of Ontario, Canada); Insecticides (of fruit, of Ontario, Canada); Fungicides and Fungistats (agrochem., of fruit, of Ontario, Canada)
CAS Registry Numbers: 56-38-2 (Parathion); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 86-50-0 (Azinphosmethyl); 99-30-9 (Dichloran); 111-54-6 (EBDC); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 133-07-3 (Folpet); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 1596-84-5 (Daminozide); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 7786-34-7 (Mevinphos); 12122-67-7 (Zineb); 23103-98-2 (Pirimicarb); 36734-19-7 (Iprodione); 50471-44-8 (Vinclozolin); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin) Role: BIOL (Biological study) (of fruit, of Ontario, Canada) Between 1986 and 1988, 306 composite samples of fruit representing 8 commodities were collected from farm deliveries to the marketplace in Ontario, Canada. All samples were analyzed for insecticides and fungicides. The anal. procedure included tests for Cl-contg., P-contg., synthetic pyrethroid, and methylcarbamate insecticides and dithiocarbamate, dicarboximide, and Cl-contg. fungicides. The commodities tested involved apples, blueberries, cherries, grapes, peaches, pears, raspberries, and strawberries. In 14% of all fruit samples, pesticide residues were below the detection limits of 0.005-0.02 mg/kg. A further 14% had total combined pesticide residues <0.1 mg/kg. Total combined fungicide and insecticide residues were 0.1 to 11 mg/kg in 72% of the samples. Six pesticides were in violation of max. residue limits (MRL) on 11 (3.6%) of the samples. Captan exceeded the 5 mg/kg MRL in 5 samples and EBDC exceeded the 7 mg/kg MRL in 2. Other violations included single fruit samples with dicofol, endosulfan, phosalone, and iprodione above the MRL. Raw grapes harvested for wine contained residues of 10 pesticides and the no. changed little following the crushing of the grapes; however, fermn. into wine significantly reduced residues. Six insecticides and 4 fungicides were present on the raw grapes and 4 of 105 samples had concns. above the MRL. Following crushing, 4 insecticides and 5 fungicides were identified and 4 of 40 samples had concns. above the MRL. In wine, only 3 insecticides were identified and all were well below the MRL. Carbaryl appeared to be the most persistent, declining very little between raw grapes and wine. [on SciFinder (R)] 0265-203X fruit/ insecticide/ fungicide;/ wine/ insecticide/ fungicide

412. Frank, R., Braun, H. E., and Ripley, B. D (1990). Residues of insecticides and fungicides on Ontario-grown vegetables, 1986-1988. *Food Additives and Contaminants* 7: 545-54.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1990:629859
Chemical Abstracts Number: CAN 113:229859
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal

Language: written in English.
Index Terms: Asparagus; Bean; Brassica; Carrot; Celery; Cucumber; Lettuce; Onion; Potato; Radish; Rutabaga; Tomato; Vegetable (fungicides and insecticides of Ontario-grown); Insecticides (of vegetables grown in Ontario); Food contamination (with fungicides and insecticides, of vegetables grown in Ontario); Fungicides and Fungistats (agrochem., of vegetables grown in Ontario); Capsicum annuum annuum (grossum group, fungicides and insecticides of Ontario-grown)
CAS Registry Numbers: 50-29-3 (DDT); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-54-8 (TDE); 72-55-9 (DDE); 76-44-8 (Heptachlor); 86-50-0 (Azinphos-methyl); 99-30-9 (Dichloran); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 133-06-2 (Captan); 133-07-3 (Folpet); 137-26-8 (Thiram); 137-30-4 (Ziram); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2921-88-2 (Chlorpyrifos); 7786-34-7 (Mevinphos); 8018-01-7 (Mancozeb); 8065-48-3 (Demeton); 9006-42-2 (Metiram); 10265-92-6 (Methamidophos); 12122-67-7 (Zineb); 12427-38-2 (Maneb); 12789-03-6 (Chlordane); 13071-79-9 (Terbufos); 23103-98-2; 36734-19-7 (Iprodione); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin)
Role: BIOL (Biological study) (of vegetables grown in Ontario) Between 1986 and 1988, 433 composite vegetable samples representing 16 commodities were collected from farm deliveries to the marketplace in Ontario, Canada. All samples were analyzed for insecticides and fungicides. The analyses included organochlorine, organophosphorus, synthetic pyrethroid, and N-methylcarbamate insecticides and dithiocarbamate, dicarboximide, and organochlorine fungicides. The commodities tested included asparagus, beans, carrots, celery, cole crops, cucumbers, lettuce, onions, peppers, potatoes, radishes, rutabagas and tomatoes. In 64% of the samples, no pesticide residue were identified to the limits of detection which ranged from 0.005 to 0.05 mg/kg. A further 22% had combined insecticide and fungicide residues below 0.1 mg/kg. Most of the pos. findings were a fraction of the Maximum Residue Limit permitted for each commodity under the Canadian Food and Drugs Act and Regulation. Three samples (0.7%) had residues that exceeded the MRL. These involved diazinon and parathion on celery and chlorothalonil on peppers. While some commodities had no detectable residues others had measurable residues of up to three sep. pesticides. The most were found on celery, lettuce and field tomatoes. [on SciFinder (R)] 0265-203X vegetable/ insecticide/ fungicide/ residue

413. Frank, R., Braun, H. E., and Ripley, B. D (1987). Residues of insecticides, fungicides, and herbicides in fruit produced in Ontario, Canada 1980-1984. *Bulletin of Environmental Contamination and Toxicology* 39: 272-9.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1987:514414
Chemical Abstracts Number: CAN 107:114414
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Food contamination (by fungicides and herbicides and insecticides, of cherries and peaches and strawberries); Fruit; Peach; Strawberry (fungicides and herbicides and insecticides of, of Canada); Fungicides and Fungistats; Herbicides; Insecticides (of peaches and strawberries and sweet cherries, of Canada); Cherry (sweet, fungicides and herbicides and insecticides of, of Canada)
CAS Registry Numbers: 115-29-7 (Endosulfan); 133-06-2 (Captan); 2310-17-0 (Phosalone) Role:

BIOL (Biological study) (of peaches and strawberries and sweet cherries, of Canada); 94-74-6 (MCPA) Role: BIOL (Biological study) (of peaches and strawberries, of Canada); 115-32-2 (Dicofol); 732-11-6 (Phosmet) Role: BIOL (Biological study) (of peaches and sweet cherries, of Canada); 56-38-2 (Parathion); 86-50-0 (Azinphosmethyl) Role: BIOL (Biological study) (of peaches, of Canada); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 101-05-3 (Anilazine); 1563-66-2 (Carbofuran); 2439-10-3 (Dodine) Role: BIOL (Biological study) (of strawberries, of Canada); 63-25-2 (Carbaryl) Role: BIOL (Biological study) (of sweet cherries and peaches, of Canada); 94-75-7 (2,4-D) Role: BIOL (Biological study) (of sweet cherries and strawberries, of Canada); 72-55-9 (DDE); 1897-45-6 (Chlorothalonil) Role: BIOL (Biological study) (of sweet cherries, of Canada) Sweet cherries, peaches, and strawberries grown in Ontario Canada in 1980-1984 were monitored for compliance with the max. residue limit (MRL) for approved insecticides, fungicides and herbicides. Residues of carbaryl, dicofol, endosulfan, phosalone, phosmet, captan, chlorothalonil, and 2,4-D were found in many of the 36 sweet cherry samples, and none exceeded the MRL. The limit of dicofol and azinophosmethyl were in violation of the MRL in each of 2 of 26 peach samples. In 36 peach samples, and within the MRL, endosulfan, parathion, phosmet, carbaryl, captan, and MCPA were obsd. In 107 strawberry samples, 1 exceeded the MRL for captan and a second exceeded the MRL for carbofuran. Other pesticides on strawberries, but below the MRL, were endosulfan, dimethoate, 2,4-D and MCPA. Although anilazine, dodine, azinophosmethyl, and methoxychlor had also been applied to strawberries, none of these pesticides were detected in the fruit. [on SciFinder (R)] 0007-4861 fruit/ insecticide/ fungicide/ herbicide;/ peach/ insecticide/ fungicide/ herbicide;/ cherry/ insecticide/ fungicide/ herbicide;/ strawberry/ insecticide/ fungicide/ herbicide

414. Frank, R. and Logan, L. (1988). Pesticide and Industrial Chemical Residues at the Mouth of the Grand Saugeen and Thames Rivers Ontario Canada 1981-1985. *Arch environ contam toxicol* 17: 741-754.

Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM WATER POLLUTION HERBICIDE INSECTICIDE FUNGICIDE ATRAZINE 2 4-D DIAZINON MALATHION CHLORDANE ALACHLOR METOLACHLOR CYANAZINE MONITORING
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: GRASSES/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Agronomy-Weed Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control

LANGUAGE: eng

415. Frank, R., Logan, L., and Clegg, B. S. (1991). Pesticide and Polychlorinated Biphenyl Residues in Waters at the Mouth of the Grand, Saugeen, and Thames Rivers, Ontario, Canada, 1986-1990. *Arch environ contam toxicol* 21: 585-595.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Water samples were collected from the mouths of the three major agricultural watersheds, the Grand, the Saugeen, and the Thames (Ontario, Canada), between January 1986 and December 1990. Analyses were performed for 18 herbicides, 26 insecticides, and 4 fungicides in use in the basins. A total of between 425 and 474 samples were analyzed for each of the major groups of pesticides. Six herbicides, two insecticides and polychlorinated biphenyls (PCBs) were identified in surface water. Atrazine and its metabolite desethylatrazine were the most frequently found pesticide present in 340 of 474 samples or 72%; the metabolite was not always present with the parent compound. The second most frequently found pesticide was metolachlor which was identified in 30 of 474 samples or 6.3%. 2,4-D and cyanazine were present in 3.3% and 1.5% of the samples, respectively; alachlor, mecoprop, and simazine were present in 0.5% of the samples. Dicamba and metribuzin were present in single sam
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

416. Frank, Richard, Clegg, B. Steve, Ripley, Brian D., and Braun, Heinz E (1987). Investigations of pesticide contaminations in rural wells, 1979-1984, Ontario, Canada. *Archives of Environmental Contamination and Toxicology* 16: 9-22.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1987:89784
Chemical Abstracts Number: CAN 106:89784
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Water pollution (by pesticides, of well waters, in Ontario); Pesticides (water pollution by, of wells, in Ontario)
CAS Registry Numbers: 50-29-3; 61-82-5 (Amitrole); 82-68-8 (Quintozene); 87-86-5 (Pentachlorophenol); 88-85-7; 93-65-2 (Mecoprop); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-82-6 (2,4-DB); 120-36-5; 122-34-9; 133-06-2; 150-68-5 (Monuron); 299-86-5 (Crufomate); 301-12-2 (Oxydemetonmethyl); 314-40-9 (Bromacil); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 732-11-6; 759-94-4 (EPTC); 1689-84-5 (Bromoxynil); 1897-45-6 (Chlorothalonil); 1912-24-9; 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 2008-41-5 (Butylate); 5902-51-2

(Terbacil); 12789-03-6 (Chlordane); 15972-60-8 (Alachlor); 21087-64-9 (Metribuzin); 21725-46-2; 34014-18-1; 51218-45-2 (Metolachlor); 51338-27-3; 57837-19-1 (Metalaxyl) Role: POL (Pollutant), OCCU (Occurrence) (water pollution by, of wells, of Ontario) From 1979-1984, investigations were conducted into 311 events of suspected contamination of wells with pesticides. This involved the analyses of water from 359 wells where the suspected contamination originated from spills, spray drift, or surface runoff waters carrying pesticides into wells. Investigations covered 83 spill events involving 104 rural wells; tests showed 79 of these became contaminated. The contaminations were caused by spills of pesticide concs., back-siphoning of spray solns., and/or spills from overfilling, emptying or rinsing spray equipment. The pesticides either entered directly into the wells or contaminated the area in the vicinity of the wells. In spite of cleanup attempts, difficulty was experienced in decontaminating most well waters and some had to be abandoned. The longest period of monitoring a contaminated well was 1117 days; during the time the decline in residue was slow. Investigations were made into 228 events involving 255 wells where spray drift, and/or surface runoff waters with pesticides were obsd. entering the well; however, only 55 contained detectable residues. The highest proportion of these events was assocd. with surface runoff or spray drift from cornfields; of 86 wells involved only 26 contained measurable residues and all involved atrazine [1912-24-9]. Fifty-seven well investigations were assocd. with spraying right-of-ways and 16 waters were contaminated with 2,4-D [94-75-7] and dichloroprop [120-36-5]. The remaining 13 well contaminations were assocd. with various other land-use activities. It required 45 to 347 days to decontaminate these 55 wells. [on SciFinder (R)] 0090-4341 pesticide/ well/ water/ pollution/ Canada

417. Freed, V. H., Chiou, C. T., Schmedding, D., and Kohnert, R (1979). Some physical factors in toxicological assessment tests. *Environmental Health Perspectives* 30: 75-80.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING, FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1979:535043
Chemical Abstracts Number: CAN 91:135043
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Solubility (of org. compds., bioaccumulation in relation to); Toxicity (of org. compds., hydrolysis and partition and soly. in relation to); Hydrolysis; Partition (of org. compds., toxicity in relation to); Pesticides (phys. properties of, toxicity in relation to); Organic compounds Role: PRP (Properties) (phys. properties of, toxicity in relation to); Molecular structure-property relationship (partition, of org. compds., toxicity in relation to); Molecular structure-property relationship (soly., of org. compds., toxicity in relation to)
CAS Registry Numbers: 50-29-3; 56-23-5; 56-38-2; 65-85-0; 67-66-3; 69-72-7; 71-43-2; 72-55-9; 91-20-3; 94-75-7; 97-17-6; 101-84-8; 103-82-2; 106-46-7; 108-86-1; 108-88-3; 108-90-7; 122-14-5; 122-59-8; 127-18-4; 299-84-3; 462-06-6; 591-50-4; 732-11-6; 2050-68-2; 2310-17-0; 2463-84-5; 2921-88-2; 5598-13-0; 10311-84-9; 21609-90-5; 35065-27-1; 37680-73-2 Role: PRP (Properties) (phys. properties of, toxicity in relation to) Partition coeffs. were correlated with soly. and bioaccumulation for numerous org. compds. Soly.-partitioning is an important factor in penetration and accumulation and possibly in indicating intrinsic toxicity. Hydrolysis rates (as an indicator of possible persistence) were also detd. Thus, many mol. parameters are involved in the penetration, accumulation, persistence, and toxic action of a chem. and toxicity is the algebraic sum of the interactions of a no. of mol. parameters. [on SciFinder (R)] 0091-6765 org/ compd/ property/ toxicity

418. Freed, V. H., Schmedding, D., Kohnert, R., and Haque, R (1979). Physical chemical properties of several organophosphates: some implication in environmental and biological behavior. *Pesticide Biochemistry and Physiology* 10: 203-11.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1979:181575
Chemical Abstracts Number: CAN 90:181575
Section Code: 5-13
Section Title: Agrochemicals
CA Section Cross-References: 22
Document Type: Journal
Language: written in English.
Index Terms: Hydrolysis; Solubility; Vapor pressure (of phosphorus-contg. pesticides); Partition (of phosphorus-contg. pesticides between octanol and water); Proteins Role: PROC (Process) (phosphorus-contg. pesticides binding of); Pesticides (phosphorus-contg., phys. properties and protein binding of)
CAS Registry Numbers: 50-29-3; 72-55-9 Role: PRP (Properties) (partition of, between octanol and water); 56-38-2; 97-17-6; 121-75-5; 122-14-5; 298-00-0; 299-84-3; 732-11-6; 2463-84-5; 2921-88-2; 10311-84-9; 21609-90-5 Role: BIOL (Biological study) (phys. properties and protein binding by); 2310-17-0; 5598-13-0; 7786-34-7 Role: PRP (Properties) (phys. properties of) Soly., vapor pressure, hydrolysis rate, partition coeffs. (octanol-H2O), and protein-binding data were given for 14 organophosphate pesticides. [on SciFinder (R)] 0048-3575 phosphate/ pesticide/ phys/ property;/ protein/ binding/ phosphate/ pesticide

419. Freed, Virgil H., Chiou, Cary T., and Schmedding, David W (1979). Degradation of selected organophosphate pesticides in water and soil. *Journal of Agricultural and Food Chemistry* 27: 706-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1979:451089
Chemical Abstracts Number: CAN 91:51089
Section Code: 5-13
Section Title: Agrochemicals
CA Section Cross-References: 19
Document Type: Journal
Language: written in English.
Index Terms: Kinetics of hydrolysis (of organophosphate pesticides); Soils (organophosphate pesticides hydrolysis in, kinetics of); Pesticides (organophosphate, hydrolysis of, in soil and water)
CAS Registry Numbers: 56-38-2; 121-75-5; 732-11-6; 2463-84-5; 2921-88-2; 5598-13-0; 10311-84-9 Role: RCT (Reactant), RACT (Reactant or reagent) (hydrolysis of, in soil and water, kinetics of) The breakdown of several organophosphate pesticides both in aq. soln. and moist soil were investigated. The hydrolysis rates of phosmet [732-11-6], dialifor [10311-84-9], malathion [121-75-5], methyl chlorpyrifos [5598-13-0], dicapthon [2463-84-5], chlorpyrifos [2921-88-2], and parathion [56-38-2] were measured at 20 and 37.5 Deg (pH 7.4) in an aq. system. A similar study was carried out at 20 Deg and pH 6.1. The half-lives at 20 Deg (pH 7.4) range from 7.1 h for phosmet to 130 days for parathion; the corresponding rates at 37.5 Deg are approx. 5 times greater than those at 20 Deg. The rate equations at pH 7.4 were calcd. from the 20 and 37.5 Deg data in an Arrhenius form: k = A(-Ea/RT). In moist soil (pH 6.2), degrdn. rates were measured at pesticide concns. of 1.0 and 0.1 ppm in a Willamette clay loam soil at a moisture level of 50% of field capacity. A comparison of the 20 Deg half-lives for phosmet and dialifor in water and in moist soil at comparable pH indicates an appreciable increase in persistence for these 2 compds., but little for the others in the soil-water system. The stabilities of these agricultural pesticides are discussed. [on SciFinder (R)] 0021-8561 organophosphate/ pesticide/ stability/ water/ soil

420. Freidig, Andreas P. and Hermens, Joop L. M (2001). Narcosis and chemical reactivity QSARs for acute

fish toxicity. *Quantitative Structure-Activity Relationships* 19: 547-553.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Database: CAPLUS
Accession Number: AN 2001:251452
Chemical Abstracts Number: CAN 135:30028
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Anesthesia; Guppy; Pimephales promelas; Toxicity (narcosis and chem. reactivity QSARs for acute fish toxicity); Partition (octanol/water; narcosis and chem. reactivity QSARs for acute fish toxicity); Structure-activity relationship (toxic; narcosis and chem. reactivity QSARs for acute fish toxicity)
CAS Registry Numbers: 55-38-9 (Fenthion); 79-06-1 (Acrylamide); 80-62-6 (Methyl-methacrylate); 83-41-0 (2,3-Dimethylnitrobenzene); 83-42-1 (2-Chloro-6-nitrotoluene); 86-50-0 (Azinphos-methyl); 88-72-2 (2-Nitrotoluene); 88-73-3 (2-Chloronitrobenzene); 88-74-4 (2-Nitroaniline); 89-59-8 (4-Chloro-2-nitrotoluene); 89-61-2 (2,5-Dichloronitrobenzene); 97-86-9 (Isobutyl methacrylate); 98-95-3 (Nitrobenzene); 99-08-1 (3-Nitrotoluene); 99-09-2 (3-Nitroaniline); 99-35-4 (1,3,5-Trinitrobenzene); 99-51-4; 99-65-0 (1,3-Dinitrobenzene); 99-99-0 (4-Nitrotoluene); 100-00-5 (4-Chloronitrobenzene); 100-01-6 (4-Nitroaniline); 100-25-4 (1,4-Dinitrobenzene); 106-63-8 (Isobutyl acrylate); 107-02-8 (Acrolein); 107-13-1 (Acrylonitrile); 121-14-2 (2,4-Dinitrotoluene); 121-73-3 (3-Chloronitrobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 140-88-5 (Ethyl acrylate); 298-00-0 (Methylparathion); 299-84-3 (Ronnel); 500-28-7 (Chlorthion); 528-29-0 (1,2-Dinitrobenzene); 602-01-7 (2,3-Dinitrotoluene); 606-20-2 (2,6-Dinitrotoluene); 610-39-9 (3,4-Dinitrotoluene); 611-06-3 (2,4-Dichloronitrobenzene); 618-62-2 (3,5-Dichloronitrobenzene); 623-91-6 (Diethyl fumarate); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 818-61-1 (2-Hydroxyethyl acrylate); 950-37-8 (Methidathion); 2104-96-3 (Bromophos); 2370-63-0 (2-Ethoxy ethyl methacrylate); 2455-24-5 (Tetrahydrofurfuryl methacrylate); 2463-84-5 (Dicapthon); 2495-37-6 (Benzyl methacrylate); 2499-95-8 (Hexyl acrylate); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 3070-16-4 (Fenthion s2145); 3209-22-1 (2,3-Dichloronitrobenzene); 4655-34-9 (Isopropyl methacrylate); 18181-70-9 (Iodofenphos); 25584-83-2 (Hydroxy propyl acrylate); 29232-93-7 (Pyrimiphos-methyl); 33576-92-0 (SV5); 38260-54-7 (Etrimfos); 114012-04-3 (Methylisocyanothion) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (narcosis and chem. reactivity QSARs for acute fish toxicity)
Citations: 1) Hermens, J; Environ Health Persp 1990, 87, 219
Citations: 2) Lipnick, R; Environ Toxicol Chem 1985, 4, 281
Citations: 3) Lipnick, R; Xenobiotica 1987, 17, 1011
Citations: 4) Lipnick, R; Sci Total Environ 1991, 109/110, 131
Citations: 5) Veith, G; Xenobiotica 1989, 19, 555
Citations: 6) Verhaar, H; Chemosphere 1992, 25, 471
Citations: 7) Russom, C; Environ Toxicol Chem 1997, 16, 948
Citations: 8) Bearden, A; SAR & QSAR Environ Res 1998, 9, 127
Citations: 9) DeBruijn, J; Aquat Toxicol 1993, 24, 257
Citations: 10) Deneer, J; Aquat Toxicol 1988, 13, 195
Citations: 11) Deneer, J; Aquat Toxicol 1987, 10, 115
Citations: 12) Hermens, J; Toxicol Environ Chem 1985, 9, 219
Citations: 13) Hermens, J; QSAR in Environmental Toxicology-II 1987, 135
Citations: 14) Karabunarliev, S; Quant Struct-Activ Relat 1996, 15, 302
Citations: 15) Mekenyan, O; Quant Struct-Activ Relat 1993, 12, 132
Citations: 16) Purdy, R; Sci Total Environ 1991, 109/110, 553
Citations: 17) Roberts, D; QSAR in Environmental Toxicology 1987, 295
Citations: 18) Roberts, D; Aquatic Toxicology and Environmental Fate: Eleventh Volume 1989, 490

Citations: 19) Schuurmann, G; Environ Toxicol Chem 1990, 9, 417
Citations: 20) Hansch, C; Crit Rev Toxicol 1989, 19, 185
Citations: 21) Freidig, A; Environ Sci Technol 1999, 33, 3038
Citations: 22) VanLoon, W; Environ Toxicol Chem 1997, 16, 1358
Citations: 23) Van Wezel, A; Crit Rev Toxicol 1995, 25, 255
Citations: 24) Lipnick, R; Probing Bioactive Mechanisms 1989, 366
Citations: 25) Konemann, W; Toxicology 1981, 19, 209
Citations: 26) Veith, G; Can J Fish Aquat Sci 1983, 40, 743
Citations: 27) Akaike, H; Annals of the Institute of Statistical Mathematics 1978, 30, 9
Citations: 28) Vaes, W; Chem Res Toxicol 1998, 11, 847
Citations: 29) Vaes, W; Chem Res Toxicol 1997, 10, 1067
Citations: 30) Vaes, W; Environ Toxicol Chem 1998, 17, 1380
Citations: 31) Abbas, R; Toxicol Appl Pharmacol 1997, 145, 192
Citations: 32) Schuurmann, G; Rational Approaches to Structure, Activity and Ecotoxicology of Agrochemicals 1992, 485
Citations: 33) DeBruijn, J; Aquat Toxicol 1991, 20, 111
Citations: 34) Urrestarazu Ramos, E; Chemosphere 1998, 37, 633
Citations: 35) Russom, C; Bull Environ Contam Toxicol 1988, 41, 589 Quant. structure activity relationships (QSAR) that describe the acute fish toxicity have been published for many different groups of reactive org. chems. The structural similarity of chems. within such groups, suggests that they share a common mode of action (MOA) which is based on their common chem. reactivity. Often, however, a descriptor for this reactivity alone can not explain the obsd. toxicity satisfactory but addn. of a hydrophobicity parameter, like log KOW, is found to improve the relationship. In the present paper, an alternative strategy is proposed and tested with three different literature data sets. Instead of searching for better descriptors to establish a QSAR for the whole data set, the assumption that all compds. within the set act by the same MOA was critically reviewed. We tested the hypothesis that some of the compds. within the data sets acted by narcosis (general anesthesia), a second plausible mode of action in acute fish toxicity. Narcosis potency at obsd. lethal exposure levels was modeled with a baseline toxicity QSAR. The literature data sets were split in a narcosis and a reactive subset and for each of them a sep., one-parameter QSAR was established. For a set of OP-esters, nine out of 20 compds. were identified as possible narcotic compds. and their toxicity could be described with a narcosis QSAR. For the 11 compds. remaining in the reactive subset, a good correlation between acute toxicity and measured, in-vitro AChE inhibition rate was found ($r2 = 0.68$) which would have been overlooked if the whole data set was used. The use of two sep. QSARs instead of one mixed QSAR was also tested for literature data sets of nitrobenzenes and a,b-unsatd. carboxylates. It was shown that for the description of toxicity data of all three groups of reactive compds., a model which uses two sep. modes of action was superior to a mixed model which uses a reactivity and a hydrophobicity parameter in a multiple linear regression. [on SciFinder (R)] 0931-8771 chem/ narcosis/ QSAR/ fish/ toxicity

421. Frenich, Antonia Garrido, Gonzalez-Rodriguez, Manuel J., Arrebola, Francisco J., and Vidal, Jose L. Martinez (2005). Potentiality of Gas Chromatography-Triple Quadrupole Mass Spectrometry in Vanguard and Rearguard Methods of Pesticide Residues in Vegetables. *Analytical Chemistry* 77: 4640-4648.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:514309
Chemical Abstracts Number: CAN 143:192507
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food contamination (GC-triple quadrupole MS in vanguard and rearguard

methods of pesticide residues in vegetables in relation to); Vegetable (potentiality of GC-triple quadrupole MS in vanguard and rearguard methods of pesticide residues in); Food analysis; Gas chromatography; Pesticides (potentiality of GC-triple quadrupole MS in vanguard and rearguard methods of pesticide residues in vegetables); Quadrupole mass spectrometry (triple; potentiality of GC-triple quadrupole MS in vanguard and rearguard methods of pesticide residues in vegetables)
CAS Registry Numbers: 50-29-3; 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorfon); 52-85-7 (Famfur); 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 58-08-2 (Caffeine); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9 (DDE); 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos methyl); 95-50-1 (1,2-Dichlorobenzene); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 120-82-1 (1,2,4-Trichlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 133-06-2 (Captan); 297-97-2 (Thionazin); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 731-27-1 (Tolilfluanide); 732-11-6 (Fosmet); 786-19-6 (Carbofenothion); 789-02-6; 886-50-0 (Terbutryn); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2212-67-1 (Molinate); 2310-17-0; 2385-85-5 (Mirex); 2439-01-2 (Quinomethionate); 2540-82-1 (Formothion); 2921-88-2 (Chlorpyriphos); 3369-52-6 (Endosulfan ether); 3689-24-5 (Sulfotepp); 3868-61-9 (Endosulfan lactone); 5598-13-0; 5915-41-3 (Terbuthylazine); 7421-93-4 (Endrin aldehyde); 7696-12-0 (Tetramethrin); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 25311-71-1 (Isofenphos); 27314-13-2 (Norflurazon); 29232-93-7 (Pirimiphos methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 36734-19-7 (Iprodione); 38260-54-7 (Etrimphos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41483-43-6 (Bupirimate); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55219-65-3 (Triadimenol); 57837-19-1 (Metalaxyl); 60168-88-9; 60207-90-1 (Propiconazole); 65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 68359-37-5 (Cyfluthrin); 68694-11-1 (Triflumizol); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 77732-09-3 (Oxadixyl); 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 94361-06-5 (Cyproconazole); 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101007-06-1 (Acrinathrin); 107534-96-3 (Tebuconazole); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 119446-68-3; 120068-37-3 (Fipronil); 131341-86-1 (Fludioxonil); 131860-33-8; 143390-89-0 (Kresoxim methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (potentiality of GC-triple quadrupole MS in vanguard and rearguard methods of pesticide residues in vegetables)
Citations: 3) Who; Residues of Pesticides in Foods and Animal Feeds, 2nd ed 2000, 2
Citations: 4) Anon; http://www.epa.gov/pesticides/food/viewtols.htm
Citations: 5) Valcarcel, M; Trends Anal Chem 1999, 11, 685
Citations: 6) Brun, E; Environ Sci Technol 2004, 38, 1115
Citations: 7) Ballesteros, B; J Chromatogr, A 2003, 475, 105
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Citations: 9) Meulenberg, E; Anal Chim Acta 1995, 311, 407
Citations: 10) Robbat, A; J Chromatogr, A 1992, 625, 277
Citations: 11) Lee, J; J Agric Food Chem 2003, 51, 3695
Citations: 12) Queffelec, A; J Agric Food Chem 2001, 49, 1675
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Citations: 15) Kolosova, A; J Agric Food Chem 2003, 51, 1107
Citations: 16) Zambonin, C; Food Chem 2004, 86, 269
Citations: 17) Sandra, P; J Chromatogr, A 2003, 1000, 299
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Citations: 20) Colume, A; Anal Chim Acta 2001, 436, 153
Citations: 21) Arrebola, F; J Chromatogr, A 2003, 1005, 131
Citations: 22) Arrebola, F; Anal Chim Acta 2003, 484, 167
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Citations: 25) Sheridan, R; J AOAC Int 1999, 82, 982
Citations: 26) Gonzalez-Rodriguez, M; Rapid Commun Mass Spectrom 2002, 16, 1216
Citations: 27) Mastovska, K; J Chromatogr, A 2003, 1000, 153
Citations: 28) Arrebola, F; J Chromatogr, A 2003, 1005, 131
Citations: 29) Dalluge, J; J Sep Sci 2002, 25, 608
Citations: 30) Mastovska, K; J Chromatogr, A 2001, 926, 291
Citations: 31) Anon; CITAC/EURACHEM GUIDE Guide to Quality in Analytical Chemistry:An Aid to Accreditation 2002
Citations: 32) Anon; Document SANCO/10476/2003 2004 A new anal. strategy for the screening and confirmation/quantification of multiclass pesticide residues in vegetables was established and validated. No complicated sample prepn. was needed, but only a simple and rapid extn. using Et acetate and sodium sulfate, which required no cleanup. The approach is based on the use of the triple quadrupole (QqQ) mass spectrometry (MS) as detection system in gas chromatog. (GC). In a 1st step, a GC-QqQ-MS screening method, which monitors only one MS/MS transition by compd., allows the identification of .apprx.130 pesticides in 11.6 min. In this way, the differentiation between neg. and potentially nonneg. samples is carried out. In the 2nd step, the nonneg. samples are reanalyzed by the GC-QqQ-MS confirmation/quantification method, which monitors 2 or 3 MS/MS transitions by compd. Confirmation of pesticides was based on the comparison of intensity ratios for the main ions in samples with those obtained on the same day from the std. in a matrix contg. the pesticides at a pre-established concn. level. Quantification of the identified and confirmed pesticides was based on the addn. std. method, which avoids matrix effect. The proposed anal. strategy allowed a reliable identification and confirmation of the target pesticides at trace levels, reducing anal. time and increasing sample throughput in routine anal. labs. [on SciFinder (R)] 0003-2700 pesticide/ detn/ vegetable/ GC/ triple/ quadrupole/ MS

422. Frey, J., Van, D. E. N. Bosch H, Segers, R., and Nicolet, J. (1992). Identification of a Second Hemolysin (Hlyii) in Actinobacillus Pleuropneumoniae Serotype 1 and Expression of the Gene in Escherichia Coli. *Infect immun* 60: 1671-1676.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Hemolysin genes of the reference strains of Actinobacillus-pleuropneumoniae serotype 1 and 2 were identified, cloned, and expressed in Escherichia-coli by using polymerase chain reaction amplification with oligonucleotides derived from the DNA sequence of the corresponding appA gene from A. pleuropneumoniae serotype 5. The three genes from serotypes 1, 2, and 5 have identical restriction maps and appear to encode a hemolysin which was previously identified in serotype 2 and designated HlyII. Gene appA is different from hlyIA encoding the major hemolysin type I (HlyI) which was identified earlier in serotype 1. Polymerase chain reaction amplification with oligonucleotides derived from the DNA sequence of hlyIA of serotype 1 showed that the gene encoding Hly1 is present in serotype 1 but not in serotype 2, in contrast to the gene encoding HlyII that was present in both serotypes. This was confirmed by Western blot (immunoblot) experiments using monoclonal antibodies specif
MESH HEADINGS: NUCLEIC ACIDS/ANALYSIS
MESH HEADINGS: PURINES/ANALYSIS
MESH HEADINGS: PYRIMIDINES/ANALYSIS
MESH HEADINGS: NUCLEIC ACIDS
MESH HEADINGS: PURINES

MESH HEADINGS: PYRIMIDINES
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: ENZYMES/ANALYSIS
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: BACTERIA/PHYSIOLOGY
MESH HEADINGS: BACTERIA/METABOLISM
MESH HEADINGS: BACTERIA/GENETICS
MESH HEADINGS: VIRUSES/GENETICS
MESH HEADINGS: IMMUNITY
MESH HEADINGS: BACTERIA
MESH HEADINGS: ENTEROBACTERIACEAE
MESH HEADINGS: PASTEURELLACEAE
KEYWORDS: Biochemical Methods-Nucleic Acids
KEYWORDS: Biochemical Studies-Nucleic Acids
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Enzymes-Methods
KEYWORDS: Toxicology-General
KEYWORDS: Physiology and Biochemistry of Bacteria
KEYWORDS: Genetics of Bacteria and Viruses
KEYWORDS: Immunology and Immunochemistry-General
KEYWORDS: Medical and Clinical Microbiology-Bacteriology
LANGUAGE: eng

423. Fu, Chi-yu, Morais, Marc C., Battisti, Anthony J., Rossmann, Michael G., and Prevelige, Jr Peter E. (2007). Molecular Dissection of O29 Scaffolding Protein Function in an in Vitro Assembly System. *Journal of Molecular Biology* 366: 1161-1173.
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

An in vitro assembly system was developed to study prolate capsid assembly of phage o29 biochemically, and to identify regions of scaffolding protein required for its functions. The crowding agent polyethylene glycol can induce bacteriophage o29 monomeric capsid protein and dimeric scaffolding protein to co-assemble to form particles which have the same geometry as either prolate T = 3 Q = 5 procapsids formed in vivo or previously observed isometric particles. The formation of particles is a scaffolding-dependent reaction. The balance between the fidelity and efficiency of assembly is controlled by the concentration of crowding agent and temperature. The assembly process is salt sensitive, suggesting that the interactions between the scaffolding and coat proteins are electrostatic. Three N-terminal o29 scaffolding protein deletion mutants, [Delta] 1-9, [Delta] 1-15 and [Delta] 1-22, abolish the assembly activity. Circular dichroism spectra indicate that these N-terminal deletions are accompanied by a loss of helicity. The inability of these proteins to dimerize suggests that the N-terminal region of the scaffolding protein contributes to the dimer interface and maintains the structural integrity of the dimeric protein. Two C-terminal scaffolding protein deletion mutants, [Delta] 79-97 and [Delta] 62-97, also fail to promote assembly. However, the secondary structure and the dimerization ability of these mutants are unchanged relative to wild-type, which suggests that the C terminus is the likely site of interaction with the capsid protein. bacteriophage o29/ scaffolding proteins/ in vitro capsid assembly/ prolate procapsid http://www.sciencedirect.com/science/article/B6WK7-4MH7TR3-4/2/22b9e89398dfd7175f7c605790ae5741

424. Fujime, Satoru and Kubota, Kenji (1985). Dynamic light scattering from dilute suspensions of thin discs and thin rods as limiting forms of cylinder, ellipsoid and ellipsoidal shell of revolution. *Biophysical Chemistry* 23: 1-13.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

A previous formulation of the field correlation function G1([tau]) of light quasielastically scattered from suspensions of rigid rods undergoing anisotropic translational as well as rotational diffusion

(T. Maeda and S. Fujime, Macromolecules 17 (1984) 1157) was extended to the cases of suspensions of cylinders (length L and radius R), ellipsoids and ellipsoidal shells of revolution (x2/b2 + y2/b2 + z2/a2= 1). The present formulation includes that for suspensions of rigid rods in the limit of KR << 1 or in the limit of b/a << 1 and Kb << 1 (an extremely prolate ellipsoid), and also that for suspensions of discs in the limit of KL << 1 or in the limit of b/a >> 1 and Ka << 1 (an extremely oblate ellipsoid), where K is the length of the scattering vector. Explicit forms of G1([tau]), of the first cumulant of G1([tau]) and of the dynamic form factors will be given, and numerical methods suitable for computation of dynamic form factors will be discussed. The present results can be applied to the analysis of experimental data for dilute suspensions of thin rods and thin discs. When the situation is favorable, our method can provide transport coefficients D1, D3, and [Theta] from dynamic light-scattering data only, where D1 and D3 are, respectively, the translational diffusion coefficients parallel with the x (y) and z axes, and [Theta] the rotational diffusion coefficient around the x (y) axis. Dynamic light scattering/ Anisotropic translational diffusion/ Rotational diffusion/ Rod/ Disc http://www.sciencedirect.com/science/article/B6TFB-44FDPW4-J5/2/183014a400a0440e8466d1ee10f28d43

425. Fukui, Koichi, Ito, Tomohiro, Tada, Mika, Aoyama, Masaaki, Sato, Shingo, Onodera, Jun-ichi, and Ohya, Hiroaki (2003). Solution-state dynamics of sugar-connected spin probes in sucrose solution as studied by multiband (L-, X-, and W-band) electron paramagnetic resonance. *Journal of Magnetic Resonance* 163: 174-181.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

A multiband (L-band, 0.7 GHz; X-band, 9.4 GHz; and W-band, 94 GHz) electron paramagnetic resonance (EPR) study was performed for two glycosidated spin probes, 4-([alpha],[beta]--glucopyranosyloxy)-TEMPO (Glc-TEMPO) and 4-([alpha],[beta]--lactopyranosyloxy)-TEMPO (Lac-TEMPO), and one non-glycosylated spin probe, 4-hydroxy-TEMPO (TEMPOL), where TEMPO=2,2,6,6-tetramethyl-1-piperidinyloxyl, to characterize fundamental hydrodynamic properties of sugar-connected spin probes. The linewidths of these spin probes were investigated in various concentrations of sucrose solutions (0-50 wt%). The multiband approach has allowed full characterization of the linewidth parameters, providing insights into the molecular shapes of the spin probes in sucrose solution. The analysis based on the fast-motional linewidth theory has yielded anisotropy parameters of [rho]x [approximate] 2.6 and [rho]y [approximate] 0.9 for Glc-TEMPO, and [rho]x [approximate] 4.2 and [rho]y [approximate] 0.9 for Lac-TEMPO. These values indicate that the glycosidated spin probes have a prolate-type molecular shape elongated along the x-axis (NO[square root] axis) with Lac-TEMPO elongated more remarkably, consistent with their molecular structures. The interaction parameters k (the ratios of the effective hydrodynamic volumes to the real ones) corrected for the difference in molecular shape have been estimated and found to have the relation k(TEMPOL) < k(Glc-TEMPO) [approximate] k(Lac-TEMPO). This agrees with the expectation that glycosidated spin probes can have stronger hydrogen bonding to water. Glycosidated spin probes are expected to be useful for probing sugar-involving interactions, which commonly occur in biological systems. Thus this study will provide an indispensable basis for such spin-probe studies. EPR/ W band/ L band/ Linewidth/ Spin probe http://www.sciencedirect.com/science/article/B6WJX-48W2RRW-8/2/15c8a6542de9b0ec7490de73fc32cc9e

426. Funderburg, S. W., Moore, B. E., Sorber, C. A., and Sagik, B. P. (Method of Soil Column Preparation for the Evaluation of Viral Transport. *Appl environ microbiol. 1979, jul; 38(1):102-7. [Applied and environmental microbiology]: Appl Environ Microbiol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS, CHEM METHODS.

ABSTRACT: A method for packing soil columns to investigate viral transport phenomena is described. The columns were 10 cm in diameter and ranged from 33 to 100 cm in length. Field conditions of the soil, including bulk density and profile, were reproduced in columns. Ionic gradients resulting from sequential applications of wastewater and distilled water affected the movement of poliovirus I (Chat) through soil. Compared with 33-cm- and 66-cm-length columns, lower concentrations of infectious virions were observed in the percolates from 100-cm soil

columns. These results may be attributed to the greater pore volume in the longer columns (the greater volume of soil contained in these columns), whereas the volume of liquid applied was constant for all columns.
MESH HEADINGS: Microbiological Techniques
MESH HEADINGS: *Poliovirus/isolation &amp
MESH HEADINGS: purification
MESH HEADINGS: *Sewage
MESH HEADINGS: *Soil Microbiology
MESH HEADINGS: *Water Microbiology
LANGUAGE: eng

427. Furness, C. A. (1998). The Pollen Morphology of Neuracanthus (Acanthaceae). *Kew Bulletin, 53 (1) pp. 77-81, 1998*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0075-5974
Abstract: The pollen morphology of 14 species, 6 subspecies and 4 varieties of Neuracanthus Nees is described and illustrated with light, scanning and transmission electron microscopy. The pollen is oblate to prolate spheroidal, 3-colporate, tectate fine perforate. It is distinguished by its lack of distinctive features, unusual within the highly eurypalynous family Acanthaceae. The pollen is unlike that of the suggested relatives of Neuracanthus. The genes appears to be palynologically isolated within the family, with relatively unspecialized pollen.
10 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

428. Fussell, R. J., Addie, K. Jackson, Reynolds, S. L., and Wilson, M. F (2002). Assessment of the Stability of Pesticides during Cryogenic Sample Processing. 1. Apples. *Journal of Agricultural and Food Chemistry* 50: 441-448.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:934269
Chemical Abstracts Number: CAN 136:182726
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food contamination; Food processing; Freezing; Malus pumila; Milling; Pesticides (stability of pesticides during cryogenic sample processing of apples)
CAS Registry Numbers: 56-38-2 (Parathion-ethyl); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-54-8; 72-55-9; 86-50-0 (Azinphos-methyl); 92-52-4 (Biphenyl); 99-30-9 (Dicloran); 114-26-1 (Propoxur); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 959-98-8 (Endosulfan(I); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1634-

78-2 (Malaoxon); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13593-03-8 (Quinalphos); 15299-99-7 (Napropamide); 18181-80-1 (Bromopropylate); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 26225-79-6 (Ethofumesate); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan (II); 34643-46-4 (Prothiofos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41483-43-6 (Bupirimate); 42509-80-8 (Isazophos); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55179-31-2 (Bitertanol); 57018-04-9 (Tolclofos-methyl); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 58810-48-3 (Ofurace); 60207-90-1 (Propiconazole); 61213-25-0 (Flurochloridone); 66246-88-6 (Penconazole); 67306-00-7 (Fenpropidin); 67564-91-4 (Fenpropimorph); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 76738-62-0; 77732-09-3 (Oxadixyl); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 88671-89-0 (Myclobutanil); 91465-08-6 (l-Cyhalothrin); 95465-99-9 (Cadusafos); 107534-96-3 (Tebuconazole) Role: POL (Pollutant), OCCU (Occurrence) (stability of pesticides during cryogenic sample processing of apples)
Citations: 1) Hill, A; Paper PR945 1994
Citations: 2) Hill, A; Paper PR1121 1996
Citations: 3) Hill, A; Effects of Laboratory Sample Processing and Storage on Pesticide Residues 1996, FD 96/34
Citations: 4) Nawaz, S; Stability of Captan, Captafol, Dicofol and Folpet during Sample Processing 1999, FD 98/97
Citations: 5) Harrington, P; Effects of Sample Processing Procedures on Pesticide Residues 1999, FD 98/90
Citations: 6) Hill, A; Principles and Practices of Method Validation 2000, 41 An assessment of the stability of a large no. (106) of pesticides and related compds. during the cryogenic sample processing of apples was undertaken. For the 1st time the procedure included an assessment of the losses during the freezing of the fruits, prior to processing. The stability of each pesticide during processing was assessed by comparing the mean recovery for the lab.-spiked samples with the mean \"survival\" of the pesticides in cryogenically processed samples. The results clearly demonstrate that the vast majority, 94 of 106, of pesticides were stable during cryogenic processing. Of particular importance was that losses of several pesticides [bitertanol (95%), heptenophos (50%), isofephos (40%), and tolylfluanid (48%)] reported to occur during ambient processing of apples did not occur during cryogenic processing. Losses of dichlofluanid (54%), chlozolinate (22%), and etridiazole (40%), previously reported to occur during ambient processing of apples, were reduced to barely significant levels (10, 17, and 14%, resp.) by cryogenic processing. Small apparent losses for a few of the compds. were attributable to anal. and sample handling difficulties, rather than to losses during processing, and need further investigation. [on SciFinder (R)] 0021-8561 pesticide/ food/ contamination/ freezing/ apple

429. Futagami, Koujiro, Narazaki, Chie, Kataoka, Yasufumi, Shuto, Hideki, and Oishi, Ryozo (1997). Application of high-performance thin-layer chromatography for the detection of organophosphorus insecticides in human serum after acute poisoning. *Journal of Chromatography, B: Biomedical Sciences and Applications* 704: 369-373.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1998:37629
Chemical Abstracts Number: CAN 128:137237
Section Code: 4-2

Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Blood analysis; Forensic analysis; Poisoning (high-performance thin-layer chromatog. for detection of organophosphorus insecticides in human serum after acute poisoning); TLC (high-performance; high-performance thin-layer chromatog. for detection of organophosphorus insecticides in human serum after acute poisoning); Insecticides (organophosphorus; high-performance thin-layer chromatog. for detection of organophosphorus insecticides in human serum after acute poisoning)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 97-17-6 (Dichlofenthion); 119-12-0 (Pyridafenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-04-4 (Disulfoton); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2104-64-5 (Epn); 2310-17-0 (Phosalon); 2540-82-1 (Formothion); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 3811-49-2 (Salithion); 5598-13-0 (Chlorpyrifos-methyl); 18854-01-8 (Isoxathion); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate) Role: ANT (Analyte), ANST (Analytical study) (high-performance thin-layer chromatog. for detection of organophosphorus insecticides in human serum after acute poisoning)
Citations: 1) Anon; Drug Evaluations, 6th ed 1989, 66
Citations: 2) Otsubo, K; J Chromatogr B 1995, 669, 408
Citations: 3) Tewari, S; J Chromatogr 1977, 130, 229
Citations: 4) Marutoiu, C; J High Resolut Chromatogr, Chromatogr Commun 1987, 10, 465
Citations: 5) Mori, H; Jpn J Toxicol Environ Health 1994, 40, 101
Citations: 6) Tsunoda, N; Jpn J Toxicol Environ Health 1986, 32, 447
Citations: 7) Stead, A; Analyst 1982, 107, 1106
Citations: 8) Watts, R; J Assoc Off Agr Chemists 1965, 48, 1161 We developed a rapid and simple method for identifying 25 commonly used organophosphorus insecticides in human serum using high-performance thin-layer chromatog. (HPTLC). These organophosphates were sepd. on plates with three different developing systems within 6-18 min and detected by means of UV radiation and coloring reactions with 4-(4-nitrobenzyl)pyridine-tetraethylenepentamine reagent (NT reagent) or palladium chloride reagent (PdCl2 reagent). Each organophosphate was accurately identified by means of the RF*100 value and the spot color in three systems. The detection limits of dichlorvos, fenitrothion, malathion, methidathion, parathion and trichlorfon in serum by the liq.-liq. extn. method were 1.1, 0.12, 0.12, 0.05, 0.6 and 0.1 mg/mL, resp. These sensitivities may be sufficient to detect those organophosphates in patient serum after acute poisoning. [on SciFinder (R)] 0378-4347 thin/ layer/ chromatog/ insecticide/ blood/ forensic

430. Gabriel, D., Calcagnolo, G., Louzada, R. M., Tancini, R., and Padovan, M. A. (1990). Chemical Control of the Boll Weevil Anthonomus grandis Boheman, 1843 (Coleoptera: Curculionidae) Under Field Conditions. *An.Soc.Entomol.Bras.* 19: 329-344 (SPA) (ENG ABS).
<u>Chem Codes</u>: EcoReference No.: 95441
Chemical of Concern: CYP,PSM,ES,AZ,MLN <u>Rejection Code</u>: NON-ENGLISH.

431. Gaibel, Zalman L. F. and Fishbein, Lawrence (1970). Proton magnetic resonance studies on organophosphorus pesticides. I. Doubling of resonances induced by asymmetry. *Virginia Journal of Science* 21: 14-16.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1970:471883
Chemical Abstracts Number: CAN 73:71883
Section Code: 73
Section Title: Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties
Document Type: Journal

Language: written in English.
Index Terms: Molecular structure-property relationships (nuclear magnetic resonance, of organophosphorus pesticides); Nuclear magnetic resonance (of organophosphorus pesticides, asymmetry resonance doubling in); Pesticides (phosphorus-contg., nuclear magnetic resonance of, asymmetry doubling in)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-72-4; 97-17-6; 121-75-5; 298-04-4; 300-76-5; 333-41-5; 563-12-2; 732-11-6; 944-22-9; 1634-78-2; 2275-14-1; 2921-88-2 Role: PRP (Properties) (nuclear magnetic resonance of, asymmetry resonance doubling in relation to) Resonance doubling was obsd. at 100 MHz in the PMR spectra of organophosphorus pesticides, including phosphorodithioates, phosphates, and thiophosphates, which is induced by mol. asymmetry. However, failure to observe the doubling is not necessarily proof of mol. symmetry. [on SciFinder (R)] 0042-658X PMR/ doubling/ organophosphorus/ pesticides;/ pesticides/ organophosphorus/ PMR/ doubling;/ phosphorodithioates/ PMR/ doubling;/ thiophosphates/ PMR/ doubling;/ phosphate/ PMR/ doubling;/ asymmetry/ mol/ PMR/ doubling;/ mol/ asymmetry/ PMR/ doubling

432. Gajdov&Aacute, M, Vargov&Aacute, M, Jakubovsk&Yacute, J , Grunt, J., V&Aacute, Lky, J., Galbav&Yacute, and S (1988). [Estrogenic Effect of Phosmet on the Uterus of Neonatal Rats]. *Bratisl Lek Listy* 89: 843-847.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: NON-ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: *Animals, Newborn
MESH HEADINGS: Diethylstilbestrol/*pharmacology
MESH HEADINGS: Female
MESH HEADINGS: Insecticides/*pharmacology
MESH HEADINGS: Organ Size/drug effects
MESH HEADINGS: Phosmet/*pharmacology
MESH HEADINGS: Rats
MESH HEADINGS: Rats, Inbred Strains
MESH HEADINGS: Uterus/*drug effects/pathology
LANGUAGE: slo
TRANSLIT/VERNAC TITLE: Estrogénne úcinky fosmetu na uterus neonatálnych potkanov.

433. Gallinella, Enzo and Cadioli, Beniamino (1991). Theoretical and experimental study of the non-s-cis form of unsaturated ethers. Molecular structure and vibrational assignment of the high-energy isomer of methylvinylether. *Journal of Molecular Structure* 249: 343-363.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

The molecular conformation of the high-energy isomer of methylvinylether has been re-investigated. Ab initio calculations were performed using the 6-31G and 6-31G* bases at the SCF level, accounting for electron correlation by full second- and third-order Moller--Plesset perturbative treatments. The internal potential energy function, as derived from calculations at several torsional angles with complete geometry optimization, indicated the high-energy isomer in a wide double-minimum potential well at a CCOC dihedral angle between 156.7 and 159.4[degree sign] from the most stable s-cis form. At every level the two equivalent minima were scarcely resolved, as expressed by a very low interconversion barrier ranging from 10.8 to 21.7 cm-. Estimates of the skeletal torsional energies in the one-vibration approximation gave aground state energy at or just above the barrier height, thus depicting the high-energy isomer as an effective s-trans form. The IR spectra of the pure liquid and the vapour were taken at several temperatures. In the mid-IR spectrum at medium-high resolution, marked fine rotational structure appeared in almost all of the gas-phase absorption envelopes of both isomers.Four bands attributed to the high-energy isomer were analyzed inthe approximation of a quasi-prolate rotor: one, of a parallel-like type, yielded B+C=0.28-1; the other three, of perpendicular-like type, yielded similar values, 2.38, 2.34 and 2.27 cm-1, for 2[A--(B+C)/2]. Both these molecular parameters agree with those expected for an s-trans conformation or one very near to it. A prediction of the vibrational

spectrum of the high-energy isomer was made from the harmonic force constants derived at the SCF 6-31G* level; the calculated frequencies were corrected by transferring scale factors from the s-cis isomer. With this procedure, the average difference between the eleven observed frequencies and the corresponding predicted frequencies amounted to 4.2 cm-1.
http://www.sciencedirect.com/science/article/B6TGS-44WCWRV-S/2/ac643ef819f4a94bfab7cfa4b23407ea

434. Gamon, Miguel, Lleo, Concha, Ten, Amparo, and Mocholi, Francisco (2001). Multiresidue determination of pesticides in fruit and vegetables by gas chromatography/tandem mass spectrometry. *Journal of AOAC International* 84: 1209-1216.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2001:576882
Chemical Abstracts Number: CAN 135:287680
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; pesticides multiresidue detn. in fruit and vegetables by GC/MS-MS); Gas chromatography (mass spectrometry combined with; pesticides multiresidue detn. in fruit and vegetables by GC/MS-MS); Pesticides (organochlorine; pesticides multiresidue detn. in fruit and vegetables by GC/MS-MS); Pesticides (organonitrogen; pesticides multiresidue detn. in fruit and vegetables by GC/MS-MS); Pesticides (organophosphorus; pesticides multiresidue detn. in fruit and vegetables by GC/MS-MS); Chemical ionization mass spectrometry; Electron ionization mass spectrometry; Food analysis; Food contamination; Fruit; Tandem mass spectrometry; Vegetable (pesticides multiresidue detn. in fruit and vegetables by GC/MS-MS); Pyrethrins Role: ANT (Analyte), ANST (Analytical study) (pyrethroids; pesticides multiresidue detn. in fruit and vegetables by GC/MS-MS)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (parathion-ethyl); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos-methyl); 99-30-9 (Dichloran); 101-02-0 (TPP); 115-32-2 (p,p'-Dicofol); 115-86-6 (TPP); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 133-07-3 (Folpet); 298-00-0 (Parathion-methyl); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 640-15-3 (Thiometon); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1897-45-6 (Chlorothalonil); 2212-67-1 (Molinate); 2439-01-2 (Chinomethionat); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 4824-78-6 (bromophos-ethyl); 5598-13-0 (Chlorpyrifos methyl); 10265-92-6 (Methamidophos); 10606-46-9 (o,p'-Dicofol); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalfos); 18181-80-1 (Bromopropylate); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 41483-43-6 (Bupirimate); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 63284-71-9 (Nuarimol); 66246-88-6 (Penconazole); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 77732-09-3 (Oxadixyl); 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 88671-89-0 (Myclobutanil); 91465-08-6 (l-Cyhalothrin); 101007-06-1 (Acrinathrin) Role: ANT (Analyte), ANST (Analytical study) (pesticides multiresidue detn. in fruit and vegetables by GC/MS-MS)
Citations: 1) De Paoli, M; J Chromatogr A 1997, 765, 127
Citations: 2) Andersson, A; Var Foeda Suppl 1986, 38, 79

Citations: 3) Luke, M; Anal Methods Pest Plant Growth Regul 1986, 15, 162
Citations: 4) Inspectorate for Heath Protection; Analytical Methods for Pesticide Residues in Foodstuffs, 6th Ed 1996
Citations: 5) McMahon, B; Pesticide Analytical Manual, 3rd Ed 1994, I
Citations: 6) Coscolla, R; Pestic Sci 1997, 50, 155
Citations: 7) Bennett, D; J AOAC Int 1997, 80, 1065
Citations: 8) Feigel, C; Varian Appl Note 26
Citations: 9) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 10) Cook, J; J AOAC Int 1999, 82, 313
Citations: 11) Lacassie, E; J Chromatogr A 1998, 805, 319
Citations: 12) Cabras, P; J AOAC Int 1998, 81, 1185
Citations: 13) Andersson, A; Pesticide Analytical Methods in Sweden 1998, Rapport 17/98, Part 1, 9
Citations: 14) Fillion, J; J AOAC Int 2000, 83, 698
Citations: 15) Plomley, J; Anal Chem 1994, 66, 4437
Citations: 16) Hayward, D; Anal Chem 1999, 71, 212
Citations: 17) Feigel, C; Varian Appl Note 28
Citations: 18) Feigel, C; Varian Appl Note 30
Citations: 19) Feigel, C; Varian Appl Note 40
Citations: 20) Cost, M; Varian Appl Note 53
Citations: 21) Schachterle, S; J Chromatogr A 1996, 754, 411
Citations: 22) Sheridan, R; J AOAC Int 1999, 82, 982
Citations: 23) Lehotay, S; J AOAC Int 2000, 83, 680 Pesticide residues in fruit and vegetables were detd. by gas chromatog./tandem mass spectrometry (GC/MS/MS). Electron impact (EI)/MS/MS and chem. ionization (CI)/MS/MS were developed for 80 compds., including organochlorine, organophosphorus, organonitrogen, and pyrethroids, providing unambiguous spectral confirmation for these complex matrixes. Residues were extd. from samples with acetone followed by a mixt. of dichloromethane-petroleum ether. Two injections per sample were required for anal. of the entire pesticide list by EI/MS/MS and CI/MS/MS. Initial steps involving cleanup and concn. of exts. were eliminated. The excellent selectivity and good linearity allowed quantification and identification of low levels of pesticides in the most difficult matrixes. The method has been used for routine anal. of many vegetables. [on SciFinder (R)] 1060-3271 pesticide/ GC/ tandem/ MS/ fruit/ vegetable

435. Gandhi, Renu and Snedeker, Suzanne M (2002). Critical evaluation of phosmet's breast cancer risk. *Comments on Toxicology* 8: 125-152.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:710696
Chemical Abstracts Number: CAN 137:243310
Section Code: 4-6
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Carcinogens; Classification; Environment; Human; Mammary gland; Risk assessment; Standards (breast cancer risk classification for phosmet in humans and lab. animals)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (breast cancer risk classification for phosmet in humans and lab. animals)
Citations: 1) Simcox, N; Environ Health Perspect 1995, 103, 1126
Citations: 2) EPA; Memo: Phosmet: HED Human Helath Risk Assessment and Supporting Documentation for the Reregistration Eligibility Decision Document (RED), http://www.epa.gov/pesticides/op/phosmet.htm 1998, 1
Citations: 3) Montgomery, J; Agrochemicals Desk Reference 1993, 335

Citations: 4) Tomlin, C; The Pesticide Manual 1994, 963
Citations: 5) Meister, R; 1999 Farm Chemicals Handbook 1999, 84, C306
Citations: 6) Mount, M; Toxicol Appl Pharmacol 1984, 72, 236
Citations: 7) Stokes, L; Occup Environ Med 1995, 52, 648
Citations: 8) USEPA US Environmental Protection Agency; Pesticide Fact Sheet Number 101: Phosmet 1986
Citations: 9) Gianessi, L; Pesticide Use in US Crop Production 1995
Citations: 10) Gianessi, L; Pesticide Use in New York Crop Production 1995
Citations: 11) NASS New York Agricultural Statistics Service; 1995 Agricultural Chemical Usage 1995
Citations: 12) EXTOXNET; Phosmet, http://ace.orst.edu/cgi-bin/mfs/01/pips/phosmet.htm?8#mfs 1996, 1
Citations: 13) PMEP; Phosmet (Imidan, Prolate), http://pmep.cce.cornell.edu/profiles/insect-mite/mevinphos-propargite/phosmet/stay-pet-delaney 1994, 1
Citations: 14) EPA; Memo: Phosmet [(mercaptomethyl)phthalimide S-(O,O-dimethylphosphorodithioate], http://www.epa.gov/pesticides/op/phosmet.htm 1997, 1
Citations: 15) USEPA US Environmental Protection Agency; Drinking Water Regulations and Health Advisories 1996, EPA 822-B-96-002, 8
Citations: 16) Anon; Citrus Ind 1973, 54, 11
Citations: 17) Kahn, E; J Environ Pathol Toxicol 1980, 4, 323
Citations: 18) USEPA; Code of Federal Regulations 1998, 40, 273
Citations: 19) Brown, L; Cancer Res 1990, 50, 6585
Citations: 20) Cantor, K; Cancer Res 1992, 52, 2447
Citations: 21) FAO/WHO; Pesticides Residues in Food-1994 (Phosmet) 1994, 127
Citations: 22) Katz, A; Unpublished study conducted for Stauffer Chemical Company 1984
Citations: 23) Sprague, G; Unpublished study conducted for Stauffer Chemical Company 1986
Citations: 24) Haseman, J; Fundam Appl Toxicol 1986, 7, 573
Citations: 25) Chang, J; Unpublished study conducted for Ciba-Geigy Corp 1991
Citations: 26) US Dept of Health and Human Services; Report on Carcinogens, Eighth Edition Summary 1998
Citations: 27) US Environmental Protection Agency; Toxicology Chapter for Reregistration Eligibility Document (RED) on Phosmet, http://www.epa.gov/pesticides/op/phosmet.htm 1997, 1
Citations: 28) Vargova, M; Arch Toxicol Suppl 1994, 17, 148
Citations: 29) Quinto, I; Mutat Res 1989, 224, 405
Citations: 30) Staples, R; Environ Health Perspect 1976, 13, 133
Citations: 31) Martson, L; Environ Health Perspect 1976, 13, 121
Citations: 32) Fabro, S; Food Cosmet Toxicol 1966, 3, 587
Citations: 33) Nicolson, T; Vet Rec 1985, 116, 281
Citations: 34) Kiraly, J; Mutat Res 1977, 46, 224
Citations: 35) Kiraly, J; Arch Environ Contam Toxicol 1979, 8, 309
Citations: 36) Purdy, M; Med Hypotheses 1996, 46, 445
Citations: 37) Purdy, M; Med Hypotheses 1998, 50, 91
Citations: 38) Shirasu, Y; Mutat Res 1976, 40, 19
Citations: 39) Moriya, M; Mutat Res 1983, 116, 185
Citations: 40) Vlckova, V; Mutat Res 1993, 302, 153
Citations: 41) Slamenova, D; Environ Mol Mutagen 1992, 20, 73
Citations: 42) Cabral, R; Tumori 1991, 77, 185
Citations: 43) Hasegawa, R; Int J Cancer 1993, 54, 489
Citations: 44) Frank, A; Vet Human Toxicol 1992, 34, 57
Citations: 45) EPA; Chemical Profile-Phosmet, http://www.epa.gov/swerecepp/ehs/profile/732116p.txt 1987, 1
Citations: 46) US Environmental Protection Agency Office of Prevention Pesticides and Toxic Substances; Memo: Phosmet: Acute and Chronic Dietary Exposure and Risk Analyses for HED RED, http://www.epa.gov/pesticides/op/phosmet.htm 1998, 1
Citations: 47) MacNeil, J; J Environ Sci Health 1986, B21, 375
Citations: 48) Maddy, K; Pesticide Residue Hazards to Farm Workers 1976, 191, 125

Citations: 49) Rosenberg, J; JAMA 1988, 260, 22
Citations: 50) US Environmental Protection Agency; Frequently Asked Questions, http://www.epa.gov/pesticides/op/phosmet/phosfaq.htm 1999, 1
Citations: 51) FAO/WHO; Evaluations of Pesticide Residues -- 1997 (Phosmet) 1997
Citations: 52) US Environmental Protection Agency; Memo: Environmental Fate and Effects Division RED Chapter for Phosmet, http://www.epa.gov/pesticides/op/phosmet.htm 1998, 1
Citations: 53) Loewenherz, C; Environ Health Perspect 1997, 105, 1344
Citations: 54) O'Keefe, M; J Sci Food Agri 1983, 34, 463
Citations: 55) Johnson, J; J Dairy Sci 1968, 51, 1225
Citations: 56) Ford, I; J Ag Food Chem 1966, 14, 83
Citations: 57) McBain, J; J Ag Food Chem 1968, 16, 813
Citations: 58) Ackermann, H; Arch Toxicol 1976, 36, 127 Phosmet is an organophosphate insecticide, widely used on fruit trees in orchards. There is a potential for occupational and para-occupational exposure to this insecticide. While there is some evidence of a carcinogenic effect, phosmet has not been through a complete review for its carcinogenic potential by the International Agency for Research on Cancer (IARC) or the United States Environmental Protection Agency (EPA). Health effects from phosmet are undergoing a review at the EPA, as part of the procedure for reassessment of tolerances for OP under the Food Quality and Protection Act of 1996 (FQPA). In this evaluation, the authors have used a modification of the IARC approach to conduct a detailed evaluation of any direct or related evidence of cancer risk, with a focus on breast cancer risk from phosmet. The authors have critically evaluated all the available human, exptl. animal, and cancer-related mol. and mechanistic studies on phosmet. Chem. and up-to-date regulatory information is included, as well as a discussion of phosmet's environmental fate and potential for human exposure. Evidence available so far does not indicate that phosmet increases breast cancer risk. It is proposed that phosmet be classified in Group 3 in the Program on Breast Cancer and Environmental Risk Factor's (BCERF) breast cancer risk classification scheme. This group represents chems. that are not classifiable for breast cancer risk in humans. [on SciFinder (R)] 0886-5140 phosmet/ breast/ cancer/ risk/ human/ classification

436. Gangbazo, G., Cluis, D., and Bernard, C. (1999). Knowledge Acquired on Agricultural Nonpoint Pollution in Quebec 1993-1998: Analysis and Perspectives. *Vecteur environnement* 32: 36-45.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: MODELING.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The studies carried out in Quebec (Canada) in order to document and understand agricultural nonpoint pollution and published recently (1993-1998) are briefly summarized, and discussed with respect to agricultural nonpoint pollution control needs. Publications were requested from most of researchers involved with agricultural nonpoint pollution studies. The current literature was reviewed for papers on the impact of agricultural practices (fertilization, tillage, pesticide use, etc.) on water qua st Management Practices, develop watershed-scale water quality models that can aid in selecting the most efficient field scale solutions and lead to water quality improvements for an entire watershed, and initiate other pilot projects aimed at testing the watershed approach on a wider scale.
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: ECOLOGY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Conservation

KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Ecology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Agronomy-General
KEYWORDS: Pest Control
LANGUAGE: fre

437. Garau, M. A., Dalmau, J. L., and Felipo, M. T. (1991). Nitrogen Mineralization in Soil Amended With Sewage Sludge and Fly Ash. *Biol fertil soils* 12: 199-201.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The effect of fly ash on N mineralization in sewage sludge was studied during a 5-week aerobic incubation of soil-waste mixtures at different loading rates under controlled conditions. Periodically, the mixtures were leached with distilled water and the inorganic N released was determined in the percolates. The data were tested by an analysis of variance with repeated measures. Significant differences were found among different incubation periods and also between different treatments. The net N mineralization, expressed as a percentage of organic N added in the sludge, was drastically reduced when higher rates (500 Mg ha-1) of flay ash were added.
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: METABOLISM
MESH HEADINGS: MINERALS/METABOLISM
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: SOIL MICROBIOLOGY
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: MICROBIOLOGY
KEYWORDS: General Biology-Conservation
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Metabolism-General Metabolism
KEYWORDS: Metabolism-Minerals
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Soil Microbiology
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Microorganisms-Unspecified
LANGUAGE: eng

438. Garcia-Domenech, R., Julian-Ortiz, J. V., and Besalu, E (2006). True prediction of lowest observed adverse effect levels. *Molecular Diversity* 10: 159-168.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:718750
Chemical Abstracts Number: CAN 145:262460
Section Code: 1-3
Section Title: Pharmacology
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Graph theory; Molecular topology; QSAR; Simulation and Modeling; Toxicity (prediction of lowest obsd. adverse effect levels)

CAS Registry Numbers: 50-18-0; 57-74-9; 60-57-1; 63-25-2; 67-45-8; 67-66-3; 71-55-6; 75-09-2; 75-35-4; 75-69-4; 75-71-8; 75-99-0; 76-44-8; 78-59-1; 79-06-1 (2-Propenamide); 80-05-7; 80-62-6; 81-07-2; 84-66-2; 84-72-0; 85-44-9 (1,3-Isobenzofurandione); 87-68-3; 87-84-3; 87-86-5; 92-52-4 (1,1'-Biphenyl); 93-65-2; 93-76-5; 94-75-7; 95-53-4; 95-57-8; 95-70-5; 97-63-2; 99-55-8; 100-21-0 (1,4-Benzenedicarboxylic acid); 101-21-3; 101-61-1; 103-23-1; 103-69-5; 105-60-2; 106-50-3 (1,4-Benzenediamine); 107-07-3; 107-15-3 (1,2-Ethanediamine); 107-21-1 (1,2-Ethanediol); 108-31-6 (2,5-Furandione); 108-60-1; 108-91-8 (Cyclohexanamine); 109-78-4; 110-80-5; 111-90-0; 117-81-7; 120-36-5; 120-61-6; 120-82-1; 120-83-2; 121-82-4; 122-39-4; 123-33-1; 131-11-3; 133-06-2; 139-40-2; 148-18-5; 298-00-0; 309-00-2; 319-84-6; 330-55-2; 630-20-6; 732-11-6; 823-40-5; 886-50-0; 959-98-8; 961-11-5; 1031-47-6; 1071-83-6; 1861-32-1; 1929-77-7; 2921-88-2; 3761-53-3; 6923-22-4; 15299-99-7; 19666-30-9; 21725-46-2; 23135-22-0; 23564-05-8; 28249-77-6; 34014-18-1; 40487-42-1; 43121-43-3; 51218-45-2; 51235-04-2; 52645-53-1; 55285-14-8; 55290-64-7; 59756-60-4; 62476-59-9; 64902-72-3; 66841-25-6; 68085-85-8; 68359-37-5; 74223-64-6; 76578-14-8; 79277-27-3; 82558-50-7 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (prediction of lowest obsd. adverse effect levels)
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Citations: 2) Pogliani, L; Chem Rev 2000, 100, 3827
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Citations: 17) Garcia-Domenech, R; DESCRI version 2003, Ramon.Garcia@uv.es
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Citations: 20) Furnival, C; Technometrics 1974, 16, 499
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Citations: 22) Besalu, E; Regre v 1.57 2005
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Citations: 26) Kier, L; J Pharm Sci 1976, 65, 1226
Citations: 27) Julian-Ortiz, J; J Med Chem 1999, 42, 3308
Citations: 28) Kier, L; J Pharm Sci 1983, 72, 1170
Citations: 29) Galvez, J; J Chem Inf Comp Sci 1994, 34, 520
Citations: 30) Hall, L; J Chem Inf Comput Sci 1995, 35, 1039
Citations: 31) Kier, L; Medicinal Research Reviews 1987, 7, 417 A database of structurally heterogeneous chem. structures with their exptl. values of Lowest Obsd. Adverse Effect Levels (LOAELs) was modeled using graph theor. descriptors. Variable selection for multiple linear regression (MLR) and linear discriminant anal. (LDA) was accomplished by the Internal Test Set (ITS) method in order to achieve true predicted LOAEL values. The results obtained can be considered good taking into account the structural diversity of the training set. [on SciFinder (R)] 1381-1991 adverse/ effect/ model/ QSAR

439. Garcia Sanchez, Andres, Ramos Martos, Natividad, and Ballesteros, Evaristo (2006). Multiresidue analysis of pesticides in olive oil by gel permeation chromatography followed by gas chromatography-tandem mass-spectrometric determination. *Analytica Chimica Acta* 558: 53-61.

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2006:81856
Chemical Abstracts Number: CAN 144:211367
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Olive oil Role: AMX (Analytical matrix), ANST (Analytical study) (extra virgin; pesticides multiresidue anal. in olive oil by gel permeation chromatog. followed by GC-MS-MS); Mass spectrometry (gas chromatog. combined with; pesticides multiresidue anal. in olive oil by gel permeation chromatog. followed by GC-MS-MS); Gas chromatography (mass spectrometry combined with; pesticides multiresidue anal. in olive oil by gel permeation chromatog. followed by GC-MS-MS); Food analysis; Food contamination; Pesticides; Size-exclusion chromatography; Tandem mass spectrometry (pesticides multiresidue anal. in olive oil by gel permeation chromatog. followed by GC-MS-MS); Olive oil Role: AMX (Analytical matrix), ANST (Analytical study) (pesticides multiresidue anal. in olive oil by gel permeation chromatog. followed by GC-MS-MS)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-38-2 (Parathion ethyl); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 121-75-5 (Malathion); 122-34-9 (Simazine); 298-00-0 (Parathion methyl); 330-54-1 (Diuron); 732-11-6 (Phosmet); 886-50-0 (Terbutryn); 950-37-8 (Methidathion); 959-98-8 (Endosulfan a); 1031-07-8 (Endosulfan sulfate); 2540-82-1 (Formothion); 2631-37-0 (Promecarb); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos methyl); 5915-41-3 (Terbuthylazine); 29232-93-7 (Pirimiphos methyl); 33213-65-9 (Endosulfan b); 42874-03-3 (Oxyfluorfen); 52918-63-5 (Deltamethrin); 67375-30-8; 72490-01-8 (Fenoxycarb); 83164-33-4 (Diflufenican); 91465-08-6 (l-Cyhalothrin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides multiresidue anal. in olive oil by gel permeation chromatog. followed by GC-MS-MS)
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Citations: 5) Lentza-Rizos, C; Rev Environ Contam Toxicol 1995, 141, 111
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Citations: 10) Steinwandter, H; Fresenius J Anal Chem 1988, 331, 499
Citations: 11) Vreuls, J; J Chromatogr A 1996, 750, 275
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Citations: 15) Barrek, S; Anal Bional Chem 2003, 376, 355
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Citations: 20) Goto, T; Anal Chim Acta 2005, 531, 79
Citations: 21) Soler, C; J Chromatogr A 2005, 1067, 115
Citations: 22) Balinova, A; J Chromatogr A 1998, 823, 11
Citations: 23) Schachterle, S; J Chromatogr A 1996, 754, 411
Citations: 24) Plomley, J; Mass Spectrom Rev 2000, 19, 305

Citations: 25) Currie, L; Anal Chim Acta 1999, 391, 105 A method for the multiresidue anal. of olive oil samples for 26 pesticides is proposed. Residual pesticides are extd. from oil using an n-hexane/acetonitrile mixt., exts. being cleaned-up by gel permeation chromatog. (GPC) for anal. by gas chromatog.-tandem mass spectrometry (GC-MS/MS). Electron ionization and chem. ionization are employed in a single anal. for the detn. of pesticides. Pesticide recoveries from virgin and refined olive oil spiked with 10, 100 and 250 mg/kg concns. of the pesticides ranged from 83.8 to 110.3%. The proposed method features good sensitivity: its limits of quantification are low enough to allow pesticide residues to be detd. at concns. below the max. residue levels legally accepted. The precision, expressed as relative std. deviation, ranges from 4.93 to 8.11%. Applicability was tested on 40 olive oil samples. Several pesticides were detected in most of the virgin olive oil samples. By contrast, refined olive samples contained few pesticides, and only endosulfan sulfate was detected in all. [on SciFinder (R)] 0003-2670 pesticide/ gel/ permeation/ chromatog/ GC/ tandem/ MS

440. Garrett, J. B., Kretz, K. A., O'donoghue, E., Kerovuo, J., Kim, W., Barton, N. R., Hazlewood, G. P., Short, J. M., Robertson, D. E., and Gray, K. A. (Enhancing the Thermal Tolerance and Gastric Performance of a Microbial Phytase for Use as a Phosphate-Mobilizing Monogastric-Feed Supplement. *Appl environ microbiol. 2004, may; 70(5):3041-6. [Applied and environmental microbiology]: Appl Environ Microbiol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: The inclusion of phytase in monogastric animal feed has the benefit of hydrolyzing indigestible plant phytate (myo-inositol 1,2,3,4,5,6-hexakis dihydrogen phosphate) to provide poultry and swine with dietary phosphorus. An ideal phytase supplement should have a high temperature tolerance, allowing it to survive the feed pelleting process, a high specific activity at low pHs, and adequate gastric performance. For this study, the performance of a bacterial phytase was optimized by the use of gene site saturation mutagenesis technology. Beginning with the appA gene from Escherichia coli, a library of clones incorporating all 19 possible amino acid changes and 32 possible codon variations in 431 residues of the sequence was generated and screened for mutants exhibiting improved thermal tolerance. Fourteen single site variants were discovered that retained as much as 10 times the residual activity of the wild-type enzyme after a heated incubation regimen. The addition of eight individual mutations into a single construct (Phy9X) resulted in a protein of maximal fitness, i.e., a highly active phytase with no loss of activity after heating at 62 degrees C for 1 h and 27% of its initial activity after 10 min at 85 degrees C, which was a significant improvement over the appA parental phytase. Phy9X also showed a 3.5-fold enhancement in gastric stability.
MESH HEADINGS: 6-Phytase/chemistry/*genetics/*metabolism
MESH HEADINGS: Acid Phosphatase/chemistry/*genetics/*metabolism
MESH HEADINGS: Animal Feed
MESH HEADINGS: Animals
MESH HEADINGS: Dietary Supplements
MESH HEADINGS: Enzyme Stability
MESH HEADINGS: Escherichia coli/*enzymology/genetics
MESH HEADINGS: Escherichia coli Proteins/chemistry/*genetics/*metabolism
MESH HEADINGS: Gastric Juice/*enzymology
MESH HEADINGS: *Heat
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Models, Molecular
MESH HEADINGS: Mutagenesis, Site-Directed
MESH HEADINGS: Phosphates/metabolism
MESH HEADINGS: Point Mutation
LANGUAGE: eng

441. Gasaway, John M (1978). Significance of abuse chemical contamination of returnable dairy containers: hazard assessment. *Journal of Food Protection* 41: 965-73.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1979:85405
Chemical Abstracts Number: CAN 90:85405
Section Code: 17-2
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Paraffin oils Role: BIOL (Biological study) (milk contamination by, from plastic container, health hazards of); Pesticides (of milk, from contaminated plastic container, health hazards of); Health hazard (of pesticides, of milk from returnable plastic containers); Milk (pesticide contamination of, from plastic containers, health hazards of); Bottles (plastic, returnable, milk contamination by pesticides from, health hazards of)
CAS Registry Numbers: 9002-88-4; 24936-68-3 Role: BIOL (Biological study) (bottles, milk contamination by pesticides from, health hazards of); 72-43-5; 93-72-1; 94-75-7; 115-32-2; 133-06-2; 133-07-3; 732-11-6; 7773-06-0; 12789-03-6 Role: BIOL (Biological study) (milk contamination by, from plastic container, health hazards of) Certain pesticide residues were reabsorbed into milk (or water) when stored in Lexan [24936-68-3] resin and polyethylene [9002-88-4] plastic returnable milk containers that had been exposed to dild. pesticide products, washed, and subsequently filled. The significance of these lab. test results is comprehensively discussed by attempting to characterize the nature of exposure to pesticide residues from a washed returnable dairy container, as opposed to exposure to milk contg. pesticide residues of non-container origin. Lab. findings are compared to actual public use experience with returnable plastic dairy containers. A hazard assessment is presented, which includes a comparison of quantities of pesticide residues extd. with existing Federal milk tolerance stds., food tolerance stds., unavoidable contaminant food additive regulations, World Health Organization and Safe Drinking Water Committee acceptable daily intake values. The probability of purchase of milk that is contaminated with pesticide residues, where the washed returnable dairy container is the source, is presented. [on SciFinder (R)] 0362-028X milk/ pesticide/ plastic/ bottle

442. Gavze, E. and Shapiro, M. (1996). Sedimentation of spheroidal particles in a vertical shear flow near a wall. *Journal of Aerosol Science* 27: S585-S586.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

Wall effect/ inertia/ particle drift/ simple shear flow
http://www.sciencedirect.com/science/article/B6V6B-46204K8-BB/2/d8fcdef4fbd41b55901a7756fcce4aa7

443. Geller, A. S., Mondy, L. A., Rader, D. J., and Ingber, M. S. (1993). Boundary element method calculations of the mobility of nonspherical particles--1. Linear chains. *Journal of Aerosol Science* 24: 597-609.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

The utility of the boundary element technique is demonstrated on the problem of linear chains of spheres translating and rotating through a quiescent fluid. The method takes advantage of the linearity of the problem by using superposition of the general solution for the flow generated by point forces on the bounding surfaces of the fluid to satisfy the boundary conditions. The BEM results for translational drag of chains of spheres compare very well with published experimental and computational data. We also show that slender body theory provides an approximate analytic result that is useful in interpreting and correlating the BEM calculations. Slender body theory also revealed that the model of the particle as a single prolate spheroid with equal aspect ratio produced a result equal to that for the chain of spheroids correct to second order, while the model of the chain as a cylinder produced an upper bound on the drag. Slender body theory also gives a reasonable estimate for the rotational resistance for chains, which, together with the BEM results, are reported here for the first time. http://www.sciencedirect.com/science/article/B6V6B-

488Y42B-20/2/a34e898ea8fde78bc505b1f64178d640

444. Geller, A. S., Rader, D. J., and Kempka, S. N. (1993). Calculation of particle concentration around aircraft-like geometries. *Journal of Aerosol Science* 24: 823-834.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

A computationally-efficient method is presented to calculate local particle concentration enhancements resulting from potential fluid flow around an idealized aircraft fuselage and wing. The geometries chosen for study are a 10:1 prolate ellipsoid at 0[degree sign] angle of attack and a Joukowski airfoil at 0[degree sign] and 5[degree sign] angles of attack, for which potential flow analytic solutions are known. The collection efficiency of and surface concentration on a cylinder in potential flow are also considered for algorithm verification. Particle concentration is calculated along particle pathlines by a mixed Eulerian-Lagrangian technique developed by Fernandez de la Mora and Rosner (1981, Fernandez de la Mora, J. F. and Rosner, D. E., Physico Chem. Hydro. 2, 1). Ordinary differential equations for particle position, velocity, and concentration are integrated numerically by a variable order, backward difference algorithm. The calculations show the creation of regions of increased concentration near objects, and of particle-free shadow zones downstream. The magnitudes of the concentration disturbances are greatest at intermediate Stokes numbers (0.1-1.0) where inertia and drag are equally dominant. Samplers placed in these regions of enhanced particle concentration may not provide accurate concentration measurements. Ultimately, this approach could be included with detailed flow solutions about specific aircraft geometries to provide guidance in locating samplers in regions of acceptably small concentration deviations. http://www.sciencedirect.com/science/article/B6V6B-488Y43D-2P/2/6ca093e24e18b36746519bedba0902e9

445. Genon, G., Marchese, F., Dotta, P., Sivera, O., and Onofrio, M. (1992). Time Progress of the Quality of a Solid Waste Leachate. *Sci total environ* 114: 149-160.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Leaching by percolation waters of toxic pollutants from solid wastes in a landfill occurs in a substantially different way to that suggested by elution tests in batch agitated reactors. Effective release, in fact, is influenced by two important aspects that distinguish it from the reference standard: gradual removal of the pollutant and hence a possible change in the matrix; the chemical and physical characteristics of the percolation liquid itself, as determined by the acid or basic nature of the wastes. The composition of the percolate from an industrial waste landfill was evaluated to determine the validity of these general considerations. It was found interesting to correlate the composition of the wastes with the transfer of metals and organic substances to the percolating liquids, this being derived from both the flow of rainwater and the expulsion of interstitial liquid present in the wastes. The discrepancy between the real washout and its simulation by a labora
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
LANGUAGE: eng

446. Genot, P., Van Huynh, N., Debongnie, P., and Pussemier, L. (Effects of Addition of Straw, Chitin and Manure to New or Recycled Biofilters on Their Pesticides Retention and Degradation Properties. *Meded rijksuniv gent fak landbouwkd toegep biol wet. 2002; 67(2):117-28. [Mededelingen (rijksuniversiteit te gent. Fakulteit van de landbouwkundige en toegepaste biologische wetenschappen)]: Meded Rijksuniv Gent Fak Landbouwkd Toegep Biol Wet.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Pollution of surface and groundwater by pesticides is an increasing problem that needs to be addressed by the authorities as well as by the farmers themselves. Nowadays, some researchers are considering the numerous small spillages at the farm sites as a relevant entry route to be taken into account for predicting surface and groundwater pollution. In order to tackle this problem, several solutions exist for limiting the disposal of pesticide wastes into the environment. One such system is biopurification of farm wastes by biobed, biofilter or phytobac. In this study, the results of pesticides retention by biofilters under outdoor conditions are presented. The biofilters were filled with a mixture of a soil + peat constituent (25% by volume for each of them) and the rest (50%) with straw or with composted manure ot with chitin (in this later case at the rate of 5 g chitin per liter of substrate). The soil + peat constituent was made either of a material already challenged by pesticides (= recycled biofilters) or of untreated material (new biofilters). Selected pesticides (atrazine, carbofuran, chloridazon, chlortoluron, cyanazine, isoproturon and lenacil) were applied onto biofilters and the eluates were collected and analyzed. Two successive injections of pesticides into the biofilters were conducted. After the first pesticides application, the recycled biofilters made of soil + peat previously treated with pesticides had better retention and degradation rates than the new biofilters. Adding manure also improved these properties of biofilters. Columns made of unchallenged soil + peat and straw (new biofilters) were the least satisfactory: up to 25% of carbofuran were lost. Biofilters made of unchallenged soil + peat and chitin retained the least lenacil. Atrazine was the most retained by biofilters (either new or recycled) with added chitin. Cyanazine was almost absent in the percolates of all biofilters. After the second application of carbofuran and isoproturon, all biofilters improved to the point where (with the exception the new biofilters made of chitin) they retained the totality of the pesticides.
MESH HEADINGS: Biodegradation, Environmental/drug effects
MESH HEADINGS: Chemistry, Physical
MESH HEADINGS: Chitin/*administration &amp
MESH HEADINGS: dosage/metabolism
MESH HEADINGS: Dietary Fiber/*administration &amp
MESH HEADINGS: dosage/metabolism
MESH HEADINGS: Filtration/methods
MESH HEADINGS: Manure/*analysis
MESH HEADINGS: Pesticide Residues/chemistry/*metabolism
MESH HEADINGS: Pesticides/chemistry/*metabolism
MESH HEADINGS: Soil Pollutants/administration &amp
MESH HEADINGS: dosage/metabolism
MESH HEADINGS: Water Movements
LANGUAGE: eng

447. George, D. B., Altman, N. L., Camann, D. E., Graham, P. J., and Guntzel, M. N. (Lubbock Land Treatment System Research and Demonstration Project. Volume 5. Executive Summary. *Govt reports announcements & index (gra&i), issue 12, 1986.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: The Lubbock Land Treatment System Research and Demonstration Project, funded by Congress in 1978 (H.R. 9375), was designed to address the various issues concerning the use of slow rate land application of municipal wastewater. The project involved the (1) physical expansion of overloaded 40 year old Lubbock slow rate land treatment system; (2) characterization of the chemical, biological and physical conditions of the ground water, soils and crops prior to and during irrigation with secondary treated municipal wastewater; (3) evaluation of the health effects associated with the slow rate land application of secondary effluent and (4)

assessment of the effects of hydraulic, nutrient and salt mass loadings on crops, soil and percolate. Final rept. 27 Nov 78-31 Dec 85, See also PB86-173622. Prepared in cooperation with Southwest Research Inst., San Antonio, TX., Illinois Univ. at Chicago Circle, and Texas Univ. at San Antonio. Sponsored by Robert S. Kerr Environmental Research Lab., Ada, OK.
KEYWORDS: Sewage disposal
KEYWORDS: Sewage treatment
KEYWORDS: Sewage irrigation
KEYWORDS: Land application

448. Gerber, Bernard R., Routledge, Lewis M., and Takashima, Shiro (1972). Self-assembly of bacterial flagellar protein: Dielectric behavior of monomers and polymers. *Journal of Molecular Biology* 71: 317-323.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

The temperature dependence for the dielectric dispersion of the flagellar protein of Salmonella abortus-equi in monomer and polymer form were compared over the frequency range of 50 Hz and 20 MHz. At 20 [degree sign]C the critical frequency and corresponding dielectric relaxation time [tau] of the monomer (mol. wt. [congruent with] 4 x 104) are 520 kHz and 310 nsec; the values of these parameters for the polymer (mol. wt.> = 11[middle dot]1 x 106) are 1[middle dot]1 kHz and 140 [mu]sec. The dielectric behavior of flagellar proteins can be related to orientation in the field of a permanent dipole on the proteins. Graphs of - log ([tau]) versus1/T are linear and the Arrhenius activation energy for disorientation of polymer is 2[middle dot]8 kcal./mole. Two limiting values of this parameter are observed, however, for the monomer: 6[middle dot]2kcal./mole at temperatures below 26 [degree sign]C and 8[middle dot]4 kcal./mole above 35 [degree sign]C. The two values are related to the polymerizable and inactive conformational isomers first reported by Gerber & Noguchi (1967). Nevertheless, the dimensions of the two isomers are remarkably similar. Below 26 [degree sign]C flagellin can be hydrodynamically approximated by a prolate ellipsoid with an axial ratio of 9 : 1 and with a dipolar angle between 30 and 40 [degree sign]; above 35 [degree sign]C the axial ratio decreases slightly to a value of 8 : 1. The dipole moment of the monomer is calculated as 860 Debye; the dipole moment of a monomer in the polymer is less than 150 Debye. Furthermore, the polymer dipole is in its long axis. To account for this result a model is proposed for the helical arrangement of distally-tilted asymmetric monomers to form a tubular flagellum. Such a filament, consequently, will contain an inherent polarity in agreement with observations by others that (1) in vitro growth of the flagellum is unidirectional and (2) that the distal end of the flagellum has a notched or fish-tail appearance. Generally, the polarization of proteins is due primarily to a permanent and not an induced dipole, which arises from fixed charges on the surface of the protein. This type of dipole has two properties useful to self-assembly mechanisms: first, they are vector quantities and so specify direction (bond angle); and second, they are capable of long-range interactions. A survey of the literature shows that for all polymerizable proteins studied, the dipole moment is greatly decreased on forming a polymer. This suggests that a principle of dipole neutralization plays an important role in the self-assembly of proteins. http://www.sciencedirect.com/science/article/B6WK7-4DNGV2N-1G/2/c52afec703eb7c81dc8d8d23f65b5691

449. Getz, Melvin E. and Wheeler, Helen G (1968). Thin-layer chromatography of organophosphorus insecticides with several adsorbents and ternary solvent systems. *Journal - Association of Official Analytical Chemists* 51: 1101-7.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1968:475850
Chemical Abstracts Number: CAN 69:75850
Section Code: 19
Section Title: Pesticides
Document Type: Journal

Language: written in English.
Index Terms: Insecticides (phosphorus-contg., chromatog. of)
Index Terms(2): Phosphoric acid Role: ANT (Analyte), ANST (Analytical study) (chromatog. of)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 56-72-4; 60-51-5; 62-73-7; 78-34-2; 86-50-0; 115-90-2; 121-75-5; 122-10-1; 141-66-2; 297-97-2; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 299-85-4; 299-86-5; 300-76-5; 301-12-2; 321-54-0; 333-41-5; 338-45-4; 563-12-2; 732-11-6; 786-19-6; 953-17-3; 1113-02-6; 1634-78-2; 2104-64-5; 2463-84-5; 2496-91-5; 2642-71-9; 7700-17-6 Role: ANT (Analyte), ANST (Analytical study) (chromatog. of); 126-75-0 Role: BIOL (Biological study) (mixt. with O,O-diethyl O-[2-(ethylthio)ethyl] ester,chromatog. of); 298-03-3 Role: BIOL (Biological study) (mixt. with O,O-diethyl S-[2-(ethylthio)ethyl] ester, chromatog. of) Forty-two organophosphorus insecticides were chromatographed on binder-free thin-layer plates prepd. from silica gel, Al2O3, and Mg silicate. Five ternary solvent systems were used for the development and 3 selective chromogenic sprays for the identification of the migrated spots. [on SciFinder (R)] 0004-5756 organophosphorus/ insecticides/ chromatog;/ insecticides/ layer/ chromatog;/ chromatog/ layer/ insecticides;/ layer/ chromatog/ insecticides

450. Gewehr, Markus, Puhl, Michael, Dickhaut, Joachim, Bastiaans, Henricus Maria Martinus, Zeller, Alissa, Anspaugh, Douglas D., Kuhn, David G., Oloumi-Sadeghi, Hassan, and Armes, Nigel (20070215). Synergistic insecticidal, acaricidal and nematocidal compositions comprising anthranilamide derivatives. 50pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:175423
Chemical Abstracts Number: CAN 146:222828
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Parasiticides (ecto-; compns. comprising anthranilamide derivs.); Acaricides; Insecticides; Nematocides (synergistic; compns. comprising anthranilamide derivs.)
CAS Registry Numbers: 201593-84-2D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (Bistrifluron; synergistic insecticidal, acaricidal and nematocidal compns.); 91465-08-6D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (lambda-Cyhalothrin; synergistic insecticidal, acaricidal and nematocidal compns.); 924275-53-6; 924275-54-7 Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic insecticidal, acaricidal and nematocidal compn.); 51-03-6D (Piperonyl butoxide;); 52-68-6D (Trichlorfon;); 55-38-9D (Fenthion); 56-38-2D (Parathion); 60-51-5D (Dimethoate); 62-73-7D (Dichlorvos); 63-25-2D (Carbaryl); 86-50-0D (Azinphosmethyl); 114-26-1D (Propoxur); 115-29-7D (Endosulfan); 116-06-3D (Aldicarb); 121-21-1D (Pyrethrin I); 121-29-9D (Pyrethrin II); 121-75-5D (Malathion); 122-14-5D (Fenitrothion); 141-66-2D (Dicrotophos); 298-00-0D (Methylparathion); 298-02-2D (Phorate); 298-04-4D (Disulfoton); 301-12-2D (Oxydemeton methyl); 311-45-5D (Paraoxon); 333-41-5D (Diazinon); 470-90-6D (Chlorfenvinphos); 563-12-2D (Ethion); 584-79-2D (Allethrin); 732-11-6D (Phosmet); 950-37-8D (Methidathion); 1563-66-2D (Carbofuran); 2032-65-7D (Methiocarb); 2310-17-0D (Phosalone); 2312-35-8D (Propargite;); 2597-03-7D (Phenthoate); 2921-88-2D (Chlorpyrifos); 5598-13-0D (Chlorpyrifosmethyl); 6923-22-4D (Monocrotophos); 7696-12-0D (Tetramethrin); 7704-34-9D (Sulfur); 7786-34-7D (Mevinphos); 10265-92-6D (Methamidophos); 10453-86-8D (Resmethrin); 11141-17-6D (Azadirachtin;); 13071-79-9D (Terbufos); 13121-70-5D (: Cyhexatin); 13171-21-6D (Phosphamidon); 13356-08-6D (Fenbutatin oxide); 14816-18-3D (Phoxim); 15263-53-3D (Cartap); 16752-77-5D (Methomyl); 18854-01-8D (Isoxathion); 22248-79-9D (Tetrachlorvinphos); 22781-23-3D (,Bendiocarb); 23031-36-9D (Prallethrin); 23103-98-2D (Pirimicarb); 23135-22-0D (Oxamyl); 24017-47-8D (Triazophos); 29232-93-7D (Pirimiphosmethyl); 30560-19-1D (Acephate); 31895-21-3D (Thiocyclam); 34643-46-4D (Prothiofos); 35367-38-5D (Diflubenzuron); 35400-43-2D (Sulprophos); 35575-96-3D

(Azamethiphos); 39515-40-7D (Cyphenothrin); 39515-41-8D (Fenpropathrin); 40596-69-8D (Methoprene); 41198-08-7D (Profenofos); 51596-10-2D (Milbemectin); 51630-58-1D (Fenvalerate); 52315-07-8D (Cypermethrin); 52645-53-1D (Permethrin); 52918-63-5D (Deltamethrin); 55285-14-8D (Carbosulfan); 57960-19-7D (Acequinocyl); 59669-26-0D (Thiodicarb); 63837-33-2D (Diofenolan); 64628-44-0D (Triflumuron;); 65907-30-4D (Furathiocarb); 66215-27-8D (Cyromazine); 66230-04-4D (Esfenvalerate); 66841-25-6D (Tralomethrin); 67375-30-8D (Alphacypermethrin); 67485-29-4D (Hydramethylnon;); 68085-85-8D (Cyhalothrin); 68359-37-5D (Cyfluthrin); 69327-76-0D (Buprofezin); 71422-67-8D (Chlorfluazuron); 71751-41-2D (Abamectin); 72490-01-8D (Fenoxycarb); 72963-72-5D (Imiprothrin); 74115-24-5D (Clofentezine); 78587-05-0D (Hexythiazox); 79538-32-2D (Tefluthrin); 80060-09-9D (DIafenthiuron); 80844-07-1D (Etofenprox); 82560-54-1D (Benfuracarb); 82657-04-3D (Bifenthrin); 83121-18-0D (Teflubenzuron); 83130-01-2D (Alanycarb); 84466-05-7D (Amidoflumet); 86479-06-3D (Hexaflumuron); 89583-90-4D (Benclothiaz); 95737-68-1D (Pyriproxyfen); 96489-71-3D (Pyridaben); 101463-69-8D (,Flufenoxuron); 102851-06-9D (Taufluvalinate); 103055-07-8D (,Lufenuron); 105024-66-6D (Silafluofen); 111988-49-9D (Thiacloprid;); 112143-82-5D (Triazamate;); 112226-61-6D (Halofenozide); 112410-23-8D (Tebufenozide); 113036-88-7D (Flucycloxuron); 116714-46-6D (Novaluron); 119168-77-3D (Tebufenpyrad); 119791-41-2D (,Emamectin); 120068-37-3D (Fipronil); 120928-09-8D (Fenazaquin); 122431-24-7D (Flupyrazofos); 122453-73-0D (Chlorfenapyr;); 123312-89-0D (Pymetrozine); 129558-76-5D (Tolfenpyrad;); 135410-20-7D (Acetamiprid); 138261-41-3D (Imidacloprid); 139968-49-3D (Metaflumizone;); 148477-71-8D (Spirodiclofen); 149877-41-8D (,Bifenazate); 150824-47-8D (Nitenpyram); 153233-91-1D (Etoxazole); 153719-23-4D (Thiamethoxam); 158062-67-0D (Flonicamid); 161050-58-4D (Methoxyfenozide); 165252-70-0D (Dinotefuran); 168316-95-8D (Spinosad); 170015-32-4D (Flufenerim); 173584-44-6D (Indoxacarb); 179101-81-6D (Pyridalyl); 181587-01-9D (Ethiprole); 203313-25-1D (Spirotetramat); 208652-17-9D; 209861-58-5D (Acetoprole); 210880-92-5D (Clothianidin); 229977-93-9D (Fluacrypyrim); 283594-90-1D (Spiromesifen); 315208-17-4D (Pyrafluprole); 394730-71-3D (Pyriprole); 400882-07-7D (Cyflumetofen); 863549-51-3D (Lepimectin) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic insecticidal, acaricidal and nematocidal compns.)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2005-707035
Priority Application Date: 20050810 Synergistic insecticidal, acaricidal and nematocidal compns. comprise (a) an anthranilamide deriv. I [B1 = halo, alkyl, haloalkyl or haloalkoxy; B2 = halo, haloalkyl, (un)substituted alkoxy or haloalkoxy; alkenyloxy, alkynyloxy, alkylthio, haloalkylthio, alkylsulfinyl, haloalkylsulfinyl, alkylsulfonyl, haloalkylsulfonyl, alkyl-S(:O)cO or haloalkyl-S(:O)xO; x = 1 or 2; R = H, (un)substituted alkyl, alkenyl, alkynyl, cycloalkyl; X = halo; Y is H or halo] or the enantiomers, salts or N-oxides thereof, and (b) one or more compds. selected from organo(thio)phosphates, carbamates, pyrethroids, growth regulators, nicotinic receptor agonists/antagonists, GABA antagonists, macrocyclic lactone insecticides, etc. [on SciFinder (R)] synergism/ insecticide/ acaricide/ nematocide/ compn/ anthranilamide/ deriv

451. Geyer, H. J., Scheunert, I., Brueggemann, R., Steinberg, C., Korte, F., and Kettrup, A. (1991). Qsar for Organic Chemical Bioconcentration in Daphnia Algae and Mussels. *Fourth international workshop on qsar (quantitative structure-activity relationships) in environmental toxicology, veldhoven, netherlands, september 16-20, 1990. Sci total environ* 109-110: 387-394.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM CHLORELLA MYTILUS-EDULIS N OCTANOL WATER PARTITION COEFFICIENT POLLUTION QUANTITATIVE STRUCTURE-ACTIVITY RELATIONSHIP
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: CYBERNETICS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: MOLLUSCA/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: CRUSTACEA
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ALGAE, GREEN
MESH HEADINGS: MOLLUSCA
MESH HEADINGS: CRUSTACEA
KEYWORDS: General Biology-Symposia
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Biophysics-Biocybernetics (1972-)
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Plant Physiology
KEYWORDS: Invertebrata
KEYWORDS: Invertebrata
KEYWORDS: Chlorophyta
KEYWORDS: Pelecypoda
KEYWORDS: Branchiopoda
LANGUAGE: eng

452. Ghaly, R. A., Pyke, J. B., Ghaly, A. E., and Ugursal, V. I. (1999). Remediation of Diesel-Oil-Contaminated Soil Using Peat. *Energy sources* 21: 785-799.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. We investigated a remediation process for

diesel-contaminated soil, in which water was used to remove the diesel from the soil and peat was used to absorb the diesel layer formed on the surface of the water. The percolation of water through the soil was uniform. The time required for water to percolate the soil and for the layers (soil, water, and diesel) to separate depended on the soil depth. Both the depth of soil and mixing affected the thickness of the diesel layer and thus diesel revovery ontent of the diesel-contaminated peat is much higher than that of coal, and the moisture content iswithin the range recommended for biomass gasification.
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
LANGUAGE: eng

453. Ghini, S., Fernandez, M., Pico, Y., Marin, R., Fini, F., Manes, J., and Girotti, S (2004). Occurrence and Distribution of Pesticides in the Province of Bologna, Italy, Using Honeybees as Bioindicators. *Archives of Environmental Contamination and Toxicology* 47: 479-488 .
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY, METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:884521
Chemical Abstracts Number: CAN 142:275128
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (carbamate; occurrence and distribution of pesticides in province of Bologna, Italy, using honeybees as bioindicators); Environmental pollution (monitoring; occurrence and distribution of pesticides in province of Bologna, Italy, using honeybees as bioindicators); Apis mellifera; Bioindicators; Gas chromatography; Liquid chromatography; Mass spectrometry; Solvent extraction (occurrence and distribution of pesticides in province of Bologna, Italy, using honeybees as bioindicators); Pesticides (organophosphorus; occurrence and distribution of pesticides in province of Bologna, Italy, using honeybees as bioindicators)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion methyl); 311-45-5 (Paraoxon ethyl); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 2032-65-7 (Methiocarb); 2104-96-3 (Bromophos methyl); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2597-03-7 (Phenthoate); 2642-71-9 (Azinphos ethyl); 2921-88-2 (Chlorpyrifos ethyl); 3383-96-8 (Temephos); 5598-13-0; 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 13171-21-6 (Phosphamidon); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 23103-98-2 (Pirimicarb); 23505-41-1 (Pirimiphos ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos methyl); 41198-08-7 (Profenofos); 72490-01-8 (Fenoxycarb) Role: AGR (Agricultural use), ANT (Analyte), POL (Pollutant), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence), USES (Uses) (occurrence and distribution of pesticides in province of Bologna, Italy, using honeybees as bioindicators)
Citations: Binelli, A; Chemosphere 2001, 45, 409
Citations: Bromenshenk, J; Environ Sci Res 1995, 50, 9
Citations: Corsolini, S; Arch Environ Contam Toxicol 2000, 39, 547
Citations: de Linan, C; Farmacologia vegetal 1997
Citations: Fernandez, M; J Agric Food Chem 2002, 49, 3540

Citations: Fernandez, M; Chromatographia 2002, 56, 577
Citations: Herrera, A; Arch Environ Contam Toxicol 2000, 38, 114
Citations: Jones, A; J Agric Food Chem 1997, 45, 2143
Citations: Kevan, G; Agric Ecosyst Environ 1999, 74, 373
Citations: Liska, I; J Chromatogr 1996, 733, 235
Citations: Lopez, A; Arch Environ Contam Toxicol 2002, 43, 103
Citations: Morzycka, B; J Chromatogr 2002, 982, 267
Citations: Porrini, C; La biodiversita alle soglie del 2000 1996, 27
Citations: Porrini, C; Ann Chim 1998, 88, 243
Citations: Porrini, C; Insect Social Life 2000, 3, 153
Citations: Porrini, C; Honey bees:The environmental impact of chemical 2002, 186
Citations: Rossi, S; J Chromatogr 2001, 905, 223
Citations: Sasaki, K; J Assoc Off Anal Chem 1987, 70, 460
Citations: Schmitt, C; Arch Environ Contam Toxicol 2002, 43, 81
Citations: Strandberg, B; Sci Total Environ 1998, 215, 69
Citations: Szefe, P; Environ Pollut 2002, 120, 423 Samples of honeybees (Apis mellifera, n = 92) from 14 beehive monitoring stations located in 3 townships in the province of Bologna were analyzed from Apr. to Oct. 2000. The concn. of 32 organophosphorus pesticides and 5 carbamates was detd. through liq.-liq. extn. followed by gas chromatog. with a nitrogen-phosphorus detector and liq. chromatog. coupled to mass spectrometry using atm. pressure chem. ionization in pos. and neg. ion modes. The most contaminated samples were from Granarolo Emilia where cereals (wheat, sorghum, and corn), sugar beets, and potatoes are the main agriculture products. Thirty-five pesticides were detected, with organophosphorus being the most abundant ones. Malathion was detected in 58 of the samples (mean level 0.360 mg/kg) followed by fenithrothion in 53 of the samples (mean level 0.544 mg/kg) and pirimiphos Me in 48 of the samples (mean level 0.006 mg/kg). Temporal trends showed that the max. detection frequency occurred in late spring and was assocd. with the use of treatment products and less rainfall. The obtained results demonstrated the feasibility of using honeybees for assessing pesticide exposure in agriculture settings. [on SciFinder (R)] 0090-4341 organophosphorus/ carbamate/ pesticide/ exposure/ honeybee/ bioindicator

454. Ghosh, Tirthankar and Nungesser, Edwin Hugh (19990616). Controlled-release compositions containing agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass. 18 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:392945
Chemical Abstracts Number: CAN 131:40955
Section Code: 5-2
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 42, 57
Coden: EPXXDW
Index Terms: Fungicides (agrochem.; controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); Coating materials (antifouling; controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); Antibiotics; Antimicrobial agents; Coating materials; Herbicides; Insecticides (controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); Amino acids; Anilides; Heterocyclic compounds; Nitriles Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); Metal alkoxides Role: AGR (Agricultural use), BUU (Biological use, unclassified), TEM (Technical or engineered material use), BIOL (Biological study), USES (Uses) (controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); Pesticide formulations (controlled-release; controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent

incorporated into metal oxide glass); Carboxylic acids Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses)   (derivs.; controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); Antifouling agents   (marine; controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); Glass Role: AGR (Agricultural use), BUU (Biological use, unclassified), TEM (Technical or engineered material use), BIOL (Biological study), USES (Uses)   (porous; controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass)
CAS Registry Numbers: 54-11-5; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-41-7D (Alanine); 57-13-6D (Urea); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 66-22-8D (Uracil); 83-79-4 (Rotenone); 86-50-0 (Azinphosmethyl); 93-98-1; 101-84-8D (Diphenyl ether); 107-49-3 (TEPP); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-01-8 (Ethoate-methyl); 116-06-3 (Aldicarb); 122-14-5 (Fenitrothion); 126-75-0 (Demeton-S); 127-63-9 (Diphenyl sulfone); 141-66-2 (Dicrotophos); 290-87-9D (1,3,5-Triazine); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 301-12-2; 315-18-4 (Mexacarbate); 333-41-5 (Diazinon); 463-77-4D (Carbamic acid); 485-31-4 (Binapacryl); 563-12-2 (Ethion); 594-07-0D (Dithiocarbamic acid); 645-48-7 (1-Phenylthiosemicarbazide); 682-80-4 (Demephion-O); 732-11-6 (Phosmet); 867-27-6 (Demeton-O-methyl); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1594-56-5; 2032-65-7 (Methiocarb); 2143-68-2 (Methoxyl); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-10-3 (Dodine); 2587-90-8 (Demephion-S); 2631-37-0 (Promecarb); 2778-04-3 (Endothion); 2921-88-2 (Chlorpyrifos); 3383-96-8 (Temephos); 5598-13-0 (Chlorpyrifos methyl); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifor); 10453-86-8 (Resmethrin); 10605-21-7 (Carbendazim); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 13356-08-6 (Fenbutatin-oxide); 13457-18-6 (Pyrazophos); 14255-88-0 (Fenazaflor); 15263-53-3 (Cartap); 16752-77-5 (Methomyl); 18854-01-8 (Isoxathion); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphos-ethyl); 23564-05-8 (Thiophanatemethyl); 24017-47-8 (Triazophos); 24579-73-5 (Propamocarb); 25154-55-6D (Nitrophenol); 25311-71-1 (Isofenphos); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 35367-38-5 (Diflubenzuron); 35554-44-0 (Imazalil); 38260-54-7 (Etrimfos); 39300-45-3 (Dinocap); 39515-40-7; 41198-08-7 (Profenofos); 42509-80-8 (Isazophos); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 57018-04-9 (Tolclofos-methyl); 57966-95-7 (Cymoxanil); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 65907-30-4 (Furathiocarb); 66230-04-4; 67375-30-8; 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 72490-01-8 (Fenoxycarb); 74115-24-5 (Clofentezine); 74738-17-3 (Fenpiclonil); 78587-05-0 (Hexythiazox); 81412-43-3 (Tridemorph); 82657-04-3 (Bifenthrin); 83733-82-8 (Fosmethilan); 88671-89-0 (Myclobutanil); 96489-71-3 (Pyridaben); 97886-45-8 (Dithiopyr); 101463-69-8 (Flufenoxuron); 112143-82-5 (Triazamate); 112410-23-8 (Tebufenozide); 113036-88-7 (Flucycloxuron); 114369-43-6 (Fenbuconazole); 117718-60-2 (Thiazopyr) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses)   (controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); 130000-40-7 (Thifluzamide) Role: AGR (Agricultural use), PEP (Physical, engineering or chemical process), BIOL (Biological study), PROC (Process), USES (Uses)   (controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); 101-20-2 (3,4,4'-Trichlorocarbanilide); 126-06-7; 137-26-8 (Tetramethylthiuram disulfide); 137-30-4 (Zinc dimethyl dithiocarbamate); 148-79-8 (2-(4-Thiazolyl)benzimidazole); 719-96-0 (N-(Fluorodichloromethylthio)phthalimide); 971-66-4; 1003-07-2D (3-Isothiazolone); 1085-98-9 (N,N-Dimethyl-N'-phenyl-N'-fluorodichloromethylthiosulfamide); 1897-45-6 (2,4,5,6-Tetrachloroisophthalonitrile); 2634-33-5 (1,2-Benzisothiazolin-3-one); 6317-18-6 (Methylene-bisthiocyanate); 10222-01-2 (2,2-Dibromo-3-nitrilopropionamide); 12122-67-7 (Zinc ethylenebisdithiocarbamate); 12427-38-2; 13108-52-6 (2,3,5,6-Tetrachloro-4-(methylsulfonyl)pyridine); 13167-25-4; 13463-41-7 (Zinc 2-pyridinethiol-1-oxide); 20018-09-1 (Diiodomethyl p-tolyl sulfone); 21564-17-0 (2-Thiocyanomethylthiobenzothiazole); 26530-20-1 (2-n-Octyl-3-isothiazolone); 26656-82-6 (Copper thiocyanate); 30007-47-7 (5-Bromo-5-nitro-1,3-

dioxane); 35691-65-7 (1,2-Dibromo-2,4-dicyanobutane); 57063-29-3 (4,5-Dichloro-2-cyclohexyl-3-isothiazolone); 64440-88-6; 67412-55-9 (N,N-Dimethyl dichlorophenyl urea); 82633-79-2; 83364-12-9; 216006-67-6 Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); 2682-20-4 (2-Methyl-3-isothiazolone); 26172-55-4; 28159-98-0 (2-(Methylthio)-4-tert-butylamino-6-(cyclopropylamino)-s-triazine); 55406-53-6 (3-Iodo-2-propynyl butyl carbamate); 64359-81-5 (4,5-Dichloro-2-n-octyl-3-isothiazolone) Role: BUU (Biological use, unclassified), PEP (Physical, engineering or chemical process), BIOL (Biological study), PROC (Process), USES (Uses) (controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass); 78-10-4; 78-62-6; 555-31-7; 555-75-9 (Triethoxyaluminum); 681-84-5; 780-69-8; 992-92-7 (Tetramethoxytitanium); 1071-76-7 (Tetrabutoxyzirconium); 1185-55-3; 2031-67-6; 2081-12-1 (Tetra-tert-butoxyzirconium); 2530-85-0; 2943-75-1; 2996-92-1; 3087-36-3; 3173-69-1 (Tetraethoxytin); 5058-42-4; 5926-29-4; 7637-16-3 (Tetraethoxyvanadium); 16068-37-4 (Bis(triethoxysilyl)ethane); 18267-08-8 (Tetraethoxyzirconium); 21142-29-0; 25590-89-0; 27961-67-7 (Tetramethoxytin); 41454-09-5; 57813-67-9 (3-Butenyl-triethoxy silane); 87135-01-1; 227083-00-3 Role: AGR (Agricultural use), BUU (Biological use, unclassified), PEP (Physical, engineering or chemical process), BIOL (Biological study), PROC (Process), USES (Uses) (precursor; controlled-release compns. contg. agricultural pesticide, microbicide or antifouling agent incorporated into metal oxide glass)
Reg.Pat.Tr.Des.States: Designated States R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO.
Patent Application Country: Application: EP
Priority Application Country: US
Priority Application Number: 97-69243
Priority Application Date: 19971211 Disclosed are controlled-release compns. contg. biol. active compds. incorporated into metal oxide glass having a porous matrix which is prepd. by polymg. one or more metal alkoxide monomers, optionally in the presence of a second metal alkoxide monomer. These compns. may be directly incorporated into the locus to be protected or may be applied to a structure in a coating. Thus, tetraethoxy orthosilicate and methyltriethoxy orthosilicate (mole ratio 4:1), 4,5-dichloro-2-n-octyl-3-isothiazolone (5% by wt. of the final product), and water (mole ratio of alkoxide monomers to water 1:2) were combined in a flask and homogenized by adding methanol or ethanol while stirring; then, 8-10 g of 0.01N HCl per mol of metal alkoxide monomer was added to the reaction mixt., which was allowed to polymerize at room temp. for 3-60 days to give a solid organometallic oxide glass contg. the biol. active compd. The cumulative percentages of 4,5-dichloro-2-n-octyl-3-isothiazolone released were 5, 30, 41, 50 and 64% by wt. in 0, 0.5, 2, 31, and 144 h. [on SciFinder (R)] A01N025-10. controlled/ release/ pesticide/ metal/ oxide/ glass;/ antifouling/ coating/ metal/ oxide/ glass;/ microbicide/ controlled/ release/ porous/ glass

455. Girenko, D. B. and Klisenko, M. L. (Regularities of Extraction of Organophosphorus Pesticides From Water. *Khim. Sel'sk. Khoz. 19(5): 58-60 1981 (9 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: PESTAB. Distribution coefficients (D) were given for the organophosphorus insecticides Gardona (tetrachlorvinphos), Khostakvik, metaphos (methyl parathion), methylnitrophos, bromophos, Cyanox (cyanophos), Afugan (pyrazophos), carbophos (malathion), phencapton, Cidial (phenthoate), phthalophos (phosmet), Amiphos (DAEP), Anthio (formothion), and phosphamide (dimethoate). Maximal values of D were observed in solvents permitting formation of hydrogen bonds between the solvent molecule and unshared electron pairs in amide or carbonyl groups. Data were presented on the effect of solvent type on extraction of pesticides from water. Aliphatic hydrocarbons extracted amides not more than 35%; solvents forming pi-complexes, up to 50%; the degree of extraction of preparations with polar solvents was 80-95%. The type of solvent had almost no effect on the degree of extraction of organophosphorus pesticides that did not contain groups that facilitate formation of hydrogen and other bonds. Selection of the appropriate pH was also important.

LANGUAGE: rus

456. Glass, R. L. and Edwards, W. M. (Dicamba in Lysimeter Runoff and Percolation Water.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: PESTAB. The postemergence herbicide dicamba was applied at 5.6 kg/ha on May 1, 1974, to Lysimeter Y101C and to an adjacent soil plot (4.1 m2) at the North Appalachian Experimental Watershed at Coshocton, Ohio. An August storm produced runoff that contained 0.23 ppb of dicamba. Dicamba was detected at 1.0 ppb in the percolate water at the 2.4-m depth 11 mo after application. The data are compared with earlier measurements of 2,4,5-trichloro phenoxyacetic acid (2,4,5-T) and picloram found in runoff and percolation water from this lysimeter. The results indicate that the loss of dicamba in runoff and percolate water will not be a source of groundwater pollution. (Author abstract reprinted by permision of the American Chemical Society)

457. Golovan, S. P., Hayes, M. A., Phillips, J. P., and Forsberg, C. W. (Transgenic Mice Expressing Bacterial Phytase as a Model for Phosphorus Pollution Control. *Nat biotechnol. 2001, may; 19(5):429-33. [Nature biotechnology]: Nat Biotechnol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

COMMENTS: Comment in: Nat Biotechnol. 2001 May;19(5):415-6 (medline/11329002)
ABSTRACT: We have developed transgenic mouse models to determine whether endogenous expression of phytase transgenes in the digestive tract of monogastric animals can increase the bioavailability of dietary phytate, a major but indigestible form of dietary phosphorus. We constructed phytase transgenes composed of the appA phytase gene from Escherichia coli regulated for expression in salivary glands by the rat R15 proline-rich protein promoter or by the mouse parotid secretory protein promoter. Transgenic phytase is highly expressed in the parotid salivary glands and secreted in saliva as an enzymatically active 55 kDa glycosylated protein. Expression of salivary phytase reduces fecal phosphorus by 11%. These results suggest that the introduction of salivary phytase transgenes into monogastric farm animals offers a promising biological approach to relieving the requirement for dietary phosphate supplements and to reducing phosphorus pollution from animal agriculture.
MESH HEADINGS: 6-Phytase/*genetics
MESH HEADINGS: Acid Phosphatase/*genetics
MESH HEADINGS: Animals
MESH HEADINGS: Blotting, Northern
MESH HEADINGS: Electrophoresis, Polyacrylamide Gel
MESH HEADINGS: Environmental Pollution/*prevention &amp
MESH HEADINGS: control
MESH HEADINGS: *Escherichia coli Proteins
MESH HEADINGS: Feces/chemistry
MESH HEADINGS: Female
MESH HEADINGS: Immunohistochemistry
MESH HEADINGS: Male
MESH HEADINGS: Manure/analysis
MESH HEADINGS: Mice
MESH HEADINGS: *Mice, Transgenic/physiology
MESH HEADINGS: Parotid Gland/enzymology
MESH HEADINGS: Phosphorus/*metabolism
MESH HEADINGS: Rats
MESH HEADINGS: Submandibular Gland/enzymology
LANGUAGE: eng

458. Gombar, Vijay K., Borgstedt, Harold H., Enslein, Kurt, Hart, Jeffrey B., and Blake, Benjamin W (1991). A QSAR model of teratogenesis. *Quantitative Structure-Activity Relationships* 10: 306-32.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Database: CAPLUS
Accession Number: AN 1992:402498
Chemical Abstracts Number: CAN 117:2498
Section Code: 4-6
Section Title: Toxicology
CA Section Cross-References: 1
Document Type: Journal
Language: written in English.
Index Terms: Teratogenesis (from chems. in lab. animals, QSAR model of); Quantitative structure-activity relationship (of chem. teratogenesis in lab. animals); Toxicity (of chems., teratogenesis QSAR model in relation to); Antibiotics; Herbicides; Inflammation inhibitors; Insecticides; Neoplasm inhibitors; Pesticides; Pharmaceuticals; Solvents; Teratogens; Tranquilizers and Neuroleptics; Ulcer inhibitors (teratogenesis in lab. animals from, QSAR model of); Alcohols; Alkaloids; Amino acids; Aromatic compounds; Toxins Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (teratogenesis in lab. animals from, QSAR model of); Organic compounds Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (acyclic, teratogenesis in lab. animals from, QSAR model of); Heterocyclic compounds Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (arom., teratogenesis in lab. animals from, QSAR model of); Ion channel blockers (calcium, teratogenesis in lab. animals from, QSAR model of); Pharmaceuticals (of abuse, teratogenesis in lab. animals from, QSAR model of)
CAS Registry Numbers: 121-75-5 Role: BIOL (Biological study) (teratogenesis in lab. animals from, QSAR model of); 50-36-2 (Cocaine); 50-49-7 (Imipramine); 51-12-7 (Nialamide); 52-67-5 (Penicillamine); 52-68-6 (Dipterex); 53-86-1 (Indomethacin); 54-32-0 (Moxisylyte); 55-38-9 (Fenthion); 55-63-0 (Nitroglycerin); 56-87-1 (Lysine); 57-13-6 (Urea); 57-41-0 (Phenytoin); 57-44-3; 58-08-2 (Caffeine); 58-14-0 (2,4-Diamino-5-p-chlorophenyl-6-ethyl-pyrimidine); 58-25-3 (Chlordiazepoxide); 58-55-9 (Theophylline); 58-73-1 (Diphenhydramine); 58-89-9 (Lindane); 58-90-2 (2,3,4,6-Tetrachlorophenol); 58-94-6 (Chlorothiazide); 59-14-3 (5-Bromodeoxyuridine); 59-66-5 (Acetazolamide); 60-00-4; 60-57-1 (Dieldrin); 62-53-3 (Aniline); 62-56-6 (Thiourea); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 64-17-5 (Ethanol); 64-86-8 (Colchicine); 67-20-9 (Nitrofurantoin); 67-56-1 (Methanol); 67-66-3 (Chloroform); 70-30-4 (Hexachlorophene); 71-43-2 (Benzene); 71-55-6 (1,1,1-Trichloroethane); 72-20-8 (Endrin); 72-55-9 (1,1-Dichloro-2,2-bis(p-chloro-phenyl)-ethylene); 73-22-3 (L-Tryptophan); 75-01-4 (Vinyl chloride); 75-05-8 (Acetonitrile); 75-07-0 (Acetaldehyde); 75-09-2 (Methylene chloride); 75-21-8 (Ethylene oxide); 75-35-4 (Vinylidene chloride); 77-47-4 (Hexachlorocyclopentadiene); 78-30-8 (Tri-o-cresyl phosphate); 79-06-1 (Acrylamide); 80-05-7 (Bisphenol A); 82-93-9 (Chlorcyclizine); 83-67-0 (Theobromine); 83-79-4 (Rotenone); 84-74-2 (Dibutylphthalate); 85-73-4; 86-50-0 (Azinphos-Methyl); 87-86-5 (Pentachlorophenol;); 90-43-7 (2-Phenylphenol); 91-20-3 (Naphthalene); 92-52-4 (Biphenyl); 93-76-5 ((2,4,5-Trichlorophenoxy)-acetic acid); 95-50-1 (o-Dichlorobenzene); 95-55-6 (o-Aminophenol); 95-94-3 (1,2,4,5-Tetrachlorobenzene); 96-09-3 (Styrene oxide); 96-12-8 (1,2-Dibromo-3-chloropropane); 96-45-7 (Ethylenethiourea); 97-77-8 (Disulfiram); 98-95-3 (Nitrobenzene); 99-56-9 (4-Nitro-o-Phenylenediamine); 99-66-1; 99-98-9 (N,N-Dimethyl-p-phenylenediamine); 100-42-5 (Styrene); 100-44-7 (Benzyl chloride); 106-46-7 (p-Dichlorobenzene); 106-50-3 (p-Phenylenediamine); 106-89-8 (Epichlorohydrin); 106-93-4 (Ethylene dibromide); 107-05-1 (Allyl chloride); 107-06-2 (1,2-Dichloroethane); 107-12-0 (Propionitrile); 107-21-1 (Ethylene glycol); 107-35-7 (Taurine); 108-10-1 (Methylisobutyl ketone); 108-88-3 (Toluene); 108-90-7 (Monochlorobenzene); 109-79-5 (n-Butylmercaptan); 109-86-4 (Ethylene glycol monomethyl ether); 110-61-2 (Succinonitrile); 110-80-5 (Ethylene glycol monoethyl ether); 111-15-9 (Ethylene glycol monoethyl ether acetate); 111-46-6 (Diethylene glycol); 111-69-3 (Adiponitrile); 111-76-2 (Ethylene glycol monobutyl ether); 111-94-4; 111-96-6 (Diethylene glycol dimethyl ether); 112-24-3 (Triethylenetetramine); 112-34-5 (Diethylene glycol monobutyl ether); 112-49-2 (Triethylene glycol dimethyl ether); 117-81-7 (Di-(2-EThylhexyl)-phthalate); 120-72-9 (Indole); 121-14-2 (2,4-Dinitrotoluene); 121-45-9 (Trimethyl phosphite); 122-99-6 (Ethylene glycol monophenyl ether); 123-30-8 (p-Aminophenol); 123-91-1 (Dioxane);

126-72-7 (Tris-(2,3-dibromopropyl)-phosphate); 133-06-2 (Captan); 137-58-6 (Lidocaine); 140-88-5 (Ethyl acrylate); 141-32-2; 142-28-9 (1,3-Dichloropropane); 148-79-8 (Thiabendazole); 154-23-4 (Cianidanol); 154-93-8 (N,N'-Bis-(2-chloroethyl)-N-nitrosourea); 299-84-3; 302-17-0 (Chloral hydrate); 303-33-3 (Heliotrine); 303-45-7 (Gossypol); 303-47-9 (Ochratoxin A); 309-00-2 (Aldrin); 329-89-5 (6-Aminonicotinamide); 330-55-2 (Linuron); 362-74-3; 363-24-6; 437-38-7 (Fentanyl); 474-25-9 (Chenodeoxycholic acid); 525-66-6; 530-78-9 (Flufenamic acid); 537-46-2 (Methamphetamine); 554-35-8 (Linamarin); 586-06-1; 591-27-5; 598-50-5 (1-Methylurea); 598-52-7 (1-Methylthiourea); 608-25-3 (2-Methyl Resorcinol); 615-66-7 (2-Chloro-1,4-benzenediamine); 625-52-5 (1-Ethylurea); 625-53-6 (1-Ethylthiourea); 632-21-3 (1,1,3,3-Tetrachloroacetone); 634-66-2 (1,2,3,4-Tetrachlorobenzene); 634-90-2 (1,2,3,5-Tetrachlorobenzene); 642-72-8; 644-62-2; 645-05-6 (Hexamethylmelamine); 671-16-9 (Procarbazine); 684-16-2; 695-53-4 (Dimethadione); 732-11-6 (Imidan); 745-65-3 (Prostaglandin E-1); 764-41-0 (1,4-Dichloro-2-butene); 804-30-8 (Thiamine tetrahydrofurfuryl disulfide); 872-50-4; 897-15-4 (Dosulepin chloride); 1622-62-4 (Flunitrazepam); 1634-04-4 (Methyl-tert-butyl ether); 1702-17-6 (3,6-Dichloropicolinic acid); 1746-01-6 (2,3,7,8-Tetrachlorodibenzo-p-Dioxin); 1812-30-2 (Bromazepam); 1825-21-4; 1836-75-5 (2,4-Dichlorophenyl-p-Nitrophenyl ether); 1918-02-1 (Picloram); 1934-21-0 (Tartrazine); 1948-33-0 (tert-Butylhydroquinone); 1972-08-3; 2062-78-4 (Pimozide); 2310-17-0; 2321-07-5; 2698-38-6 (4-Chloro-2-methylphenoxyaceticacid ethyl ester); 2698-41-1 (o-Chlorobenzylidene malononitrile); 2809-21-4; 2921-88-2 (Chlorpyrifos); 2955-38-6 (Prazepam); 3385-03-3 (Flunisolide); 3562-84-3 (Benzbromarone); 3715-92-2 (N-Nitrosoethylenethiourea); 3778-73-2 (Ifosfamide); 3825-26-1 (Ammonium perfluorooctanoate); 4376-20-9 (Mono(2-Ethylhexyl)phthalate); 4559-86-8 (1,1,3,3-Tetrabutylurea); 5051-62-7 (Guanabenz); 5307-14-2 (2-Nitro-p-phenylenediamine); 5464-28-8 (1,3-Dioxolane-4-methanol); 5534-09-8; 5633-20-5 (Oxybutynin); 6051-87-2 (b-Naphthoflavone); 6358-09-4 (6-Chloro-4-nitro-2-aminophenol); 6493-05-6 (Pentoxifylline); 6837-24-7 (N-Cyclohexyl-2-pyrrolidone); 6903-79-3 (Creatinol-o-phosphate); 7235-40-7 (b-Carotene); 9036-19-5 (Octoxynol); 10206-21-0 (Cephacetrile); 10457-90-6 (Bromperidol); 10540-29-1 (Tamoxifen); 11121-48-5 (Rose bengal); 13392-18-2 (Fenoterol); 13993-65-2 (Metiazinic acid); 14255-87-9 (Parbendazole); 14769-73-4 (Levamisole); 15687-27-1 (Ibuprofen); 17804-35-2 (Benomyl); 17924-92-4 (Zearalenone); 18046-21-4 (Fentiazac); 18172-33-3 (Cyclopiazonic acid); 18683-91-5 (Ambroxol); 19216-56-9 (Prazosin); 19875-60-6 (Lisuride hydrogen maleate); 20537-88-6 (Amifostine); 20706-25-6; 21187-98-4; 21256-18-8 (Oxaprozin); 21259-20-1 (Insariotoxin); 21466-07-9 (Bromofenofos); 21609-90-5 (Phosvel); 21794-01-4 (Rubratoxin B); 22059-60-5 (Disopyramide phosphate); 22316-47-8 (Clobazam); 22345-47-7 (Tofisopam); 22494-42-4 (Diflunisal); 22609-73-0 (Niludipine); 23155-02-4 (Fosfomycin); 23210-56-2 (Ifenprodil); 23255-93-8 (Hycanthone methane sulfonate); 23256-30-6 (Nifurtimox); 24729-96-2 (Clindamycin 2-phosphate); 25122-57-0 (Clobetasone 17-butyrate); 25967-29-7 (Flutoprazepam); 26328-04-1 (Cinepazide maleate); 26615-21-4 (Zotepine); 26652-09-5 (Ritodrine); 26675-46-7 (Isoflurane); 26807-65-8 (Indapamide); 26864-56-2; 27470-51-5 (Suxibuzone); 27589-33-9 (Azosemide); 28657-80-9 (Cinoxacin); 28797-61-7 (Pirenzepine); 28911-01-5 (Triazolam); 28981-97-7 (Alprazolam); 29110-47-2 (Guanfacine); 29122-68-7 (Atenolol); 29216-28-2 (Mequitazine); 29679-58-1; 30544-47-9 (Etofenamate); 30748-29-9 (Feprazone); 31036-80-3 (Lofexidine); 31112-62-6 (Metrizamide); 31430-15-6 (Flubendazole); 31793-07-4 (Pirprofen); 31828-71-4 (Mexiletine); 32385-11-8; 32527-55-2 (Tiaramide); 32774-16-6 (3,3',4,4',5,5'-Hexachlorobiphenyl); 32795-47-4 (Nomifensine maleate); 32838-28-1; 33564-31-7 (Diflorasone diacetate); 33755-46-3 (Dexamethasone 17-valerate); 34140-59-5 (Trimebutine maleate); 34368-04-2 (Dobutamine); 34580-13-7 (Ketotifen); 34915-68-9 (Bunitrolol); 35065-27-1 (2,2',4,4',5,5'-Hexachlorobiphenyl); 35440-49-4; 35846-53-8 (Maytansine); 36322-90-4 (Piroxicam); 36798-79-5 (Budralazine); 36894-69-6 (Labetalol); 37065-29-5 (Miloxacin); 37148-27-9 (Clenbuterol); 38363-40-5; 38677-81-5 (Pirbuterol); 38957-41-4 (Emorfazone); 39300-45-3 (Dinocap); 39552-01-7 (Befunolol); 40054-69-1 (Etizolam); 40507-23-1 (Fluproquazone); 40828-46-4 (Suprofen); 41903-57-5 (Tetrachlorodibenzo-p-dioxin); 42200-33-9 (Nadolol); 42971-09-5 (Vinpocetine); 43143-11-9 (Omadine MDS); 43200-80-2; 49785-74-2 (Supidimide); 50370-12-2; 50679-08-8 (Terfenadine); 50838-36-3 (Tolciclate); 50924-49-7 (Bredinin); 50972-17-3 (Bacampicillin); 51012-32-9 (Tiapride); 51207-31-9 (2,3,7,8-Tetrachlorodibenzofuran); 51235-04-2 (Hexazinone); 51264-14-3 (Amsacrine); 51321-79-0; 51481-10-8 (Vomitoxin); 51481-61-9 (Cimetidine); 51762-

05-1; 52125-53-8 (Propylene glycol monoethyl ether); 52205-73-9 (Estramustine phosphate disodium); 52468-60-7 (Flunarizine); 52485-79-7 (Buprenorphine); 52712-76-2 (E-643); 52942-31-1 (Etoperidone); 53164-05-9 (Acemetacin); 53516-81-7; 53994-73-3 (Cefaclor); 54340-61-3 (Brovanexine); 54350-48-0 (Etretinate); 54381-16-7 (N,N-Bis(2-Hydroxyethyl)-p-phenylenediamine sulfate); 54767-75-8 (Suloctidil); 55079-83-9 (Etretin); 55142-85-3 (Ticlopidine); 55268-75-2 (Cefuroxime); 55335-06-3 (Triclopyr); 55689-65-1 (Oxepinac); 55779-06-1 (Astromicin); 55837-27-9 (Piretanide); 55843-86-2; 55985-32-5 (Nicardipine); 56049-88-8 (Indacrinone); 56187-47-4 (Cefazedone); 56302-13-7 (Satranidazole); 56391-56-1; 56392-17-7 (Metoprolol tartrate); 56796-20-4 (Cefmetazole); 57648-21-2 (Timiperone); 57801-81-7 (Brotizolam); 57808-66-9 (Domperidone); 58581-89-8 (Azelastine); 58712-69-9; 58786-99-5 (Butorphanol tartrate); 59080-40-9 (2,2',4,4',5,5'-Hexabromobiphenyl); 59277-89-3 (Acyclovir); 59804-37-4 (Tenoxicam); 61422-45-5 (Carmofur); 62893-19-0 (Cefoperazone); 62973-76-6 (Azanidazole); 63527-52-6 (Cefotaxime); 64506-49-6; 64622-45-3 (Pimeprofen); 64952-97-2; 65277-42-1 (Ketoconazole); 68252-19-7 (Pirmenol); 68373-14-8 (Sulbactam); 68401-81-0; 68779-67-9 (RU-24722); 68786-66-3 (Triclabendazole); 69712-56-7 (Cefotetan); 70458-96-7; 70657-70-4; 70711-40-9 (Ametantrone acetate); 72332-33-3 (Procaterol); 72590-77-3 (Hydrocortisone 17-butyrate 21-propionate); 74011-58-8 (Enoxacin); 74849-93-7 (SM-1652); 75871-97-5; 76095-16-4 (Enalapril maleate); 76610-84-9 (Cefbuperazone); 76824-35-6 (Famotidine); 77175-51-0 (Cloconazole); 77287-90-2 (Xorphanol mesylate); 78110-38-0 (Azthreonam); 80830-42-8; 81412-43-3 (Tridemorph); 82419-36-1 (Ofloxacin); 82956-11-4; 84964-12-5; 86273-18-9 (Lenampicillin); 91488-26-5; 141780-77-0 Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (teratogenesis in lab. animals from, QSAR model of) Four related QSAR models of teratogenesis in exptl. animals have been developed: one each for heteroarom., carboarom., alicyclic and acyclic compds. The nos. of compds. in these models range from 40 (for the alicyclic model) to 144 (for the carboarom. model). As detd. by cross-validation using the leave-one-out, or jackknife, technique, the accuracy of the models in discriminating between teratogens and nonteratogens ranges from 92.4% to 96%. A single overall assessment of exptl. teratogenesis was chosen as the biol. endpoint; taking into account such factors as dosage, maternal toxicity, and affected organ systems remain to be subjects of further studies. [on SciFinder (R)] 0931-8771 QSAR/ model/ teratogenesis

459. Gomelsky, M. and Kaplan, S. (Appa, a Novel Gene Encoding a Trans-Acting Factor Involved in the Regulation of Photosynthesis Gene Expression in Rhodobacter Sphaeroides 2.4.1. *J bacteriol. 1995, aug; 177(16):4609-18. [Journal of bacteriology]: J Bacteriol*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: BACTERIA.

ABSTRACT: A new gene, the product of which is involved in the regulation of photosynthesis gene expression in the anoxygenic photosynthetic bacterium Rhodobacter sphaeroides 2.4.1, has been identified. The isolation of this gene, designated appA (activation of photopigment and puc expression), was based on its ability, when provided in extra copies, to partially suppress mutations in the two-component PrrB-PrrA regulatory system. The presence of extra copies of the appA gene in either prrB, prrA, or wild-type strains resulted in an activation of puc::lacZ expression under aerobic conditions. Constructed AppA null mutants did not grow photosynthetically and were impaired in the synthesis of both bacteriochlorophyll and carotenoids, as well as the structural proteins of the photosynthetic spectral complexes. When grown anaerobically in the dark, these mutants accumulated bacteriochlorophyll precursors. The expression of lacZ fusions to several photosynthesis genes and operons, including puc, puf, and bchF, was decreased in the AppA mutant strains in comparison with the wild type. To examine the role of AppA involvement in bacteriochlorophyll biosynthesis, we inactivated an early gene, bchE, of the bacteriochlorophyll pathway in both wild-type and AppA- mutant backgrounds. The double mutant, AppA- BchE-, was found to be severely impaired in photosynthesis gene expression, similar to the AppA- BchE+ mutant and in contrast to the AppA+ BchE- mutant. This result indicated that AppA is more likely involved in the regulation of expression of the bch genes than in the biosynthetic pathway per se. The appA gene was sequenced and appears to encode a protein of 450 amino acids with no obvious homology to known proteins.

MESH HEADINGS: Aerobiosis
MESH HEADINGS: Amino Acid Sequence
MESH HEADINGS: Anaerobiosis
MESH HEADINGS: Bacterial Proteins
MESH HEADINGS: Bacteriochlorophylls/biosynthesis
MESH HEADINGS: Base Sequence
MESH HEADINGS: Cloning, Molecular
MESH HEADINGS: Darkness
MESH HEADINGS: Flavoproteins
MESH HEADINGS: *Gene Expression Regulation, Bacterial
MESH HEADINGS: Genes, Bacterial/*genetics
MESH HEADINGS: Genes, Regulator/genetics
MESH HEADINGS: Molecular Sequence Data
MESH HEADINGS: Mutagenesis
MESH HEADINGS: Phenotype
MESH HEADINGS: Photosynthesis/*genetics
MESH HEADINGS: Recombinant Fusion Proteins/biosynthesis
MESH HEADINGS: Rhodobacter sphaeroides/*genetics
MESH HEADINGS: Sequence Analysis, DNA
MESH HEADINGS: Sequence Homology, Amino Acid
MESH HEADINGS: Suppression, Genetic
MESH HEADINGS: Trans-Activators/biosynthesis/*genetics
LANGUAGE: eng

460. Gonzales, D. A., Supkoff, D., Fleck, J., Margetich, S., and Echelberry, J. (Environmental Monitoring of the 1986 Apple Maggot Eradication Project in Humboldt and Del Norte Counties. *Govt reports announcements & index (gra&i), issue 11, 1990*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ABSTRACT: TD3: The 1986 Apple Maggot Eradication Project required use of the insecticide phosmet over large areas in six counties of northern California. The chemical had no previous use on eradication projects in California, was not registered for use on crabapples and had incomplete information on its environmental fate. Therefore, the Environmental Hazards Assessment Program of the California Department of Food and Agriculture was directed to develop a comprehensive monitoring program to evaluate the environmental levels of phosmet and phosmetoxon, a toxic degradation product. The results of the study indicated a general decrease in phosmet and phosmetoxon concentrations over time in the environmental samples collected, and the degradation rate of phosmet in all the types of sampled media was within an acceptable range. Final rept.
KEYWORDS: Pest control
KEYWORDS: Apples
KEYWORDS: Humboldt County(California)
KEYWORDS: Del Norte County(California)
KEYWORDS: Phosmet
KEYWORDS: Pesticide residues
KEYWORDS: Environmental monitoring

461. Gonzalez-Diaz, Humberto, Cruz-Monteagudo, Maykel, Vina, Dolores, Santana, Lourdes, Uriarte, Eugenio, and De Clercq, Erik (2005). QSAR for anti-RNA-virus activity, synthesis, and assay of anti-RSV carbonucleosides given a unified representation of spectral moments, quadratic, and topologic indices. *Bioorganic & Medicinal Chemistry Letters* 15: 1651-1657.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR, HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 2005:199486

Chemical Abstracts Number: CAN 142:441277
Section Code: 1-3
Section Title: Pharmacology
CA Section Cross-References: 28
Document Type: Journal
Language: written in English.
Index Terms: Antiviral agents; Human; Human coxsackievirus B4; Influenza virus; Molecular topology; Paramyxovirus; Picornaviridae; QSAR; RNA viruses; Respiratory syncytial virus; Vesicular stomatitis virus (QSAR for anti-RNA-virus activity, synthesis, and assay of anti-RSV carbonucleosides)
CAS Registry Numbers: 59721-29-8 Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Foipan, Carmostat mesylate; QSAR for anti-RNA-virus activity, synthesis, and assay of anti-RSV carbonucleosides); 82956-11-4 Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Futhan, Nafamostat mesylate; QSAR for anti-RNA-virus activity, synthesis, and assay of anti-RSV carbonucleosides); 851070-71-8P Role: ADV (Adverse effect, including toxicity), PAC (Pharmacological activity), RCT (Reactant), SPN (Synthetic preparation), THU (Therapeutic use), BIOL (Biological study), PREP (Preparation), USES (Uses), RACT (Reactant or reagent) (QSAR for anti-RNA-virus activity, synthesis, and assay of anti-RSV carbonucleosides); 851070-72-9P; 851070-76-3P Role: ADV (Adverse effect, including toxicity), PAC (Pharmacological activity), SPN (Synthetic preparation), THU (Therapeutic use), BIOL (Biological study), PREP (Preparation), USES (Uses) (QSAR for anti-RNA-virus activity, synthesis, and assay of anti-RSV carbonucleosides); 851070-73-0P; 851070-74-1P Role: PAC (Pharmacological activity), RCT (Reactant), SPN (Synthetic preparation), THU (Therapeutic use), BIOL (Biological study), PREP (Preparation), USES (Uses), RACT (Reactant or reagent) (QSAR for anti-RNA-virus activity, synthesis, and assay of anti-RSV carbonucleosides); 50-09-9 (Hexobarbital sodium); 50-11-3 (Metharbital); 50-29-3 (DDT); 50-36-2 (Cocaine); 50-49-7 (Imipramine); 50-63-5; 51-83-2 (Carbachol); 52-31-3 (Cyclobarbital); 52-43-7 (Allobarbital); 52-86-8 (Haloperidol); 54-04-6 (Mescaline); 54-25-1; 55-98-1 (Busulfan); 56-72-4 (Coumaphos); 56-75-7 (Chloramphenicol); 57-33-0 (Pentobarbital sodium); 57-41-0 (Di-Lan); 57-42-1 (Meperidine); 57-43-2 (Amobarbital); 57-53-4 (Meprobamate); 57-66-9 (Probenecid); 58-08-2 (Caffeine); 58-15-1 (Aminopyrine); 58-73-1 (Diphenhydramine); 58-89-9 (Lindane); 58-93-5 (Hydrochlorothiazide); 58-94-6 (Chlorothiazide); 59-26-7 (Nikethamide); 59-46-1 (Procaine); 59-96-1 (Phenoxybenzamine); 60-51-5 (Dimethoate); 61-24-5 (Cephalosporin C); 61-32-5 (Methicillin); 62-37-3 (Chlormerodrin); 62-73-7 (DDVP); 63-75-2 (Arecoline); 64-65-3 (Bemegride); 64-86-8 (Colchicine); 66-75-1 (Uracil mustard); 67-68-5 (Dimethyl sulfoxide); 69-23-8 (Fluphenazine); 71-73-8 (Thiopental sodium); 72-43-5 (Methoxychlor); 72-56-0 (Perthane); 73-03-0; 73-40-5; 75-99-0 (Dalapon); 76-75-5; 76-99-3 (Methadone); 77-02-1 (Aprobarbital); 77-15-6 (Ethoheptazine); 77-22-5 (Caramiphen); 77-23-6 (Carbetapentane); 77-38-3; 77-47-4 (C-56); 77-65-6 (Carbromal); 77-67-8 (Ethosuximide); 78-44-4 (Carisoprodol); 78-48-8 (DEF); 80-77-3 (Chlormezanone); 82-99-5 (Thiphenamil); 83-98-7 (Orphenadrine); 85-79-0 (Dibucaine); 86-78-2 (Pentaquine); 86-80-6 (Dimethisoquin); 87-09-2 (Almecillin); 90-22-2 (Valethamate Bromide); 91-84-9 (Pyrilamine); 91-85-0 (Thonzylamine); 93-71-0 (Randox); 93-72-1 (Silvex); 94-26-8 (Butylparaben); 95-04-5 (Ectylurea); 95-06-7 (Vegadex); 96-88-8 (Mepivacaine); 97-17-6 (Nemacide); 97-77-8 (Disulfiram); 98-92-0 (NAM); 101-21-3 (CIPC); 101-27-9 (Barban); 104-06-3 (Thioacetazone); 110-62-3 (Pentanal); 114-07-8 (Erythromycin); 114-26-1 (Baygon); 114-80-7 (Neostigmine Bromide); 115-26-4 (Dimefox); 115-44-6 (Talbutal); 115-67-3 (Paramethadione); 115-68-4 (Sulfadicramide); 115-90-2 (Dasanit); 116-06-3 (Temik); 116-29-0 (Tetradifon); 116-42-7 (Sulfaproxyline); 117-89-5 (Trifluoperazine); 118-00-3 (Guanosine); 118-53-6 (Penicillin F); 118-75-2 (Chloranil); 119-38-0 (Isolan); 120-34-3 (Sulfametoyl); 120-97-8 (Dichlorphenamide); 122-11-2 (Sulfadimethoxine); 122-16-7 (Sulfanitran); 122-89-4 (Mesulfamide); 124-87-8 (Picrotoxin); 125-44-0 (Vinbarbital sodium); 127-48-0 (Trimethadione); 127-81-1 (Salthion); 131-69-1 (Talsutin); 133-06-2 (Captan); 133-07-3 (Folpet); 133-67-5 (Trichloromethiazide); 135-07-9; 136-47-0; 136-78-7 (Sesone); 137-26-8 (Thiram); 137-30-4 (Ziram); 137-58-6 (Lidocaine); 138-56-7 (Trimethobenzamide); 139-40-2 (Propazine); 139-62-8 (Cyclomethycaine); 140-28-3 (Benzathine); 140-56-7 (Dexon); 143-50-0 (Kepone); 144-02-5; 144-80-9 (Sulfacetamide); 146-54-3 (Triflupromazine); 147-52-4 (Nafcillin);

147-55-7 (Pheneticillin); 148-56-1 (Flumetiazid); 149-15-5 (Butacaine Sulfate); 150-68-5 (Monuron); 151-83-7 (Methohexital); 153-61-7 (Cefalotin); 155-91-9 (Sulfamoprine); 157-03-9 (L-DON); 297-78-9 (Isobenzan); 297-97-2 (Thionazin); 298-00-0; 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 299-85-4 (Zytron); 300-76-5 (Naled); 302-66-9; 303-81-1 (Novobiocin); 304-84-7 (Ethamivan); 305-03-3 (Chlorambucil); 314-40-9 (Bromacil); 314-50-1; 315-18-4 (Zectran); 316-23-4 (Diethylstilbestrol disulfate); 330-54-1 (Diuron); 330-55-2 (Linuron); 332-69-4 (Bromamide); 339-43-5 (Carbutamide); 342-95-0 (Merophan); 346-18-9 (Polythiazide); 362-29-8 (Propiomazine); 442-96-6 (Fluoroquine); 467-84-5 (Phenadoxone); 477-30-5 (Demecolcine); 480-23-9 (Orobol); 483-18-1 (Emetine); 483-63-6 (Crotamiton); 486-17-9 (Captodiamine); 497-72-3 (Methymycin); 497-73-4 (Neomethymycin); 500-28-7 (Chlorothion); 502-55-6 (Herbisan); 503-01-5 (Isometheptene); 509-86-4 (Heptabarbital); 521-12-0 (Drostanolone propionate); 522-70-3 (Blastmycin); 524-99-2 (Medrylamine); 525-92-8 (Penicillin P); 525-94-0 (Adicillin); 525-97-3 (Penicillin K); 529-38-4 (Homococaine); 529-73-7 (Isopentaquine); 536-43-6 (Dyclonine); 547-53-5 (NeoUliron); 551-27-9 (Propicillin); 552-25-0 (Diampromide); 553-31-1 (Asazol); 555-37-3 (Neburon); 562-10-7; 575-47-3 (Flavacidin); 575-54-2 (Penicillin S); 576-97-6 (Sulfasolucin); 595-33-5 (Megestrol Acetate); 642-83-1 (Aceglatone); 644-64-4 (Dimetilan); 670-64-4 (Giareg); 671-04-5 (Banol); 721-50-6 (Prilocaine); 732-11-6 (Imidan); 735-52-4 (Cetofenicol); 759-94-4 (EpTAM); 768-94-5 (Amantadine); 786-19-6 (Carbophenothion); 793-52-2 (Meflophenhydramine); 795-13-1 (Wometin); 834-12-8 (Ametryne); 857-95-4 (Fentirin); 859-07-4 (Cefaloram); 953-17-3 (Methyl Trithion); 983-85-7 (Penamecillin); 989-51-5 (Epigallocatechin gallate); 1088-80-8 (Metamelfalan); 1114-71-2 (Pebulate); 1134-23-2 (Ro-Neet); 1156-19-0 (Tolazamide); 1158-80-1 (Spirazidin); 1404-64-4 (Sparsomycin); 1491-59-4 (Oxymetazoline); 1596-84-5 (Succinic Acid 2,2 Dimethylhydrazide); 1610-17-9 (Atratone); 1610-18-0 (Prometone); 1620-24-2 (Astiron); 1642-54-2; 1861-32-1 (Dacthal); 1912-24-9 (Atrazine); 1926-49-4 (Clometicillin); 1948-33-0 (TBHQ); 1952-96-1 (AT 16); 1984-94-7 (Sulfasymazine); 2032-59-9 (Matacil); 2032-65-7 (Mesurol); 2104-64-5 (EPN); 2164-09-2 (Dicryl); 2185-98-0 (Ocaphane); 2188-67-2 (Naepaine); 2212-67-1 (Molinate); 2226-97-3 (Ambunol); 2275-14-1 (Phenkapton); 2303-16-4 (Diallate); 2307-68-8 (Solan); 2385-85-5 (Mirex); 2393-92-2 (Thiamphenicol glycinate); 2425-06-1 (Difolatan); 2447-57-6 (Sulfadoxine); 2608-24-4 (Piposulfan); 2792-04-3 (Hisfen); 2885-39-4 (Acetoxycycloheximide); 2921-88-2 (Dursban); 2980-74-7 (Chloramphenicol glycinate); 2998-57-4 (Estramustine); 3027-21-2 (SM2); 3110-98-3; 3150-02-5 (Lonin 4); 3254-63-5 (GC-6506); 3374-04-7; 3478-94-2 (Piperalin); 3544-35-2 (Iproclozide); 3544-94-3 (Chloramphenicol succinate); 3563-14-2 (Sulfasuccinamide); 3564-99-6 (Asamet); 3565-72-8 (Embramine); 3568-16-9 (Phenaline); 3572-74-5 (Moxastine); 3577-01-3 (Cefaloglycin); 3626-97-9 (Ciminal); 3688-35-5 (Aminochlorambucil); 3689-50-7 (Oxomemazine); 3733-81-1 (Defosfamide); 3736-08-1 (Fenetylline); 3785-44-2 (Bisdequalinium diacetate); 3819-34-9 (Phenamet); 3861-81-2 (Disulformin); 3886-39-3 (RD3-0028); 3930-19-6 (Rufocromomycin); 4015-18-3 (Sulfaclomide); 4107-73-7 (Sulfatriazine); 4148-16-7 (Ritrosulfan); 4171-13-5 (Valnoctamide); 4302-95-8 (Tevenel); 4414-51-1 (Thiocillin); 4780-24-9 (Isopropicillin); 4891-15-0 (Estramustine Phosphate); 4921-96-4 (Carbocillin); 5250-39-5 (Flucloxacillin); 5380-30-3 (Nicosin); 5579-95-3 (Metofurone); 5580-25-6 (Nifurethazone); 5591-22-0 (Loranil); 5624-04-4; 5632-44-0 (Tolpropamine); 5632-52-0 (Clofenciclan); 5683-88-5 (Fenastezin); 5702-84-1 (Neosanamid); 5777-69-5 (Asdophan); 5959-44-4 (Aminohexan); 6157-87-5 (Trestolone Acetate); 6489-97-0 (Metampicillin); 6666-55-3; 6736-58-9 (3-Deazaadenosine); 6834-29-3 (Amedin); 7287-19-6 (Prometryne); 8022-00-2 (Methyl demeton); 9001-73-4 (Papaine); 10015-51-7 (Lomenin-2); 10047-08-2 (Lofenal); 10088-95-6 (Radicinin); 10095-06-4 (Mebicar); 10180-86-6 (Angustibalin); 10206-21-0 (Cefacetrile); 10465-78-8 (Diamide); 10477-72-2; 11118-72-2 (Antimycin); 12789-03-6 (Chlordane); 13061-27-3 (Sulphenazone); 13392-28-4; 13425-94-0 (Asaline); 13425-98-4 (Improsulfan); 13909-02-9 (NSC-95466); 13909-09-6 (Semustine); 13930-34-2 (Clormecaine); 14079-08-4 (Dibatod); 14484-64-1 (Ferbam); 15139-41-0; 15221-81-5 (Fludorex); 15318-45-3 (Dextrosulphenidol); 15949-72-1 (Prazocillin); 16225-17-5 (Fluoromezin); 16231-75-7 (Atolide); 16398-39-3 (Nitroxazepine); 16506-27-7 (Bendamustine); 16689-12-6 (Hexacaine); 17021-26-0 (Calusterone); 17784-12-2 (Sulfacitine); 18493-30-6 (Metochalcone); 18694-40-1 (Epirizole); 19186-33-5 (Aristeromycin); 19721-56-3 (Amaromycin); 19804-27-4 (p-Methyldiphenhydramine); 19819-47-7 (Nifuron); 21312-10-7

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Citations: 75) Gonzalez-Diaz, H; Bioorg Med Chem Lett 2004, 15(551), 2005
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Citations: 78) Gonzalez-Diaz, H; Bull Math Biol 2004, 66, 1285
Citations: 79) Gia, O; Bioorg Med Chem 2004, 13(809), 2005
Citations: 80) De Clercq, E; In vitro and ex vivo test systems to rationalize drug design and delivery 1994, 108 The unified representation of spectral moments, classic topol. indexes,

quadratic indexes, and stochastic mol. descriptors show that all these mol. descriptors lie within the same family. Consequently, the same prior probability for a successful quant. structure-activity relation (QSAR) may be expected irresp. of which indexes are selected. Herein, we used stochastic spectral moments as mol. descriptors to seek a QSAR using a database of 221 bioactive compds. previously tested against diverse RNA viruses and 402 nonactive ones. The QSAR model thus obtained correctly classifies 90.9% of compds. in training. The model also correctly classifies a total of 87.9% of 207 compds. on addnl. external predicting series, 73 of them having anti-RNA-virus activity and 134 nonactive ones. In addn., all compds. were regrouped into five different subsets for leave-group-out studies: (1) anti-influenza, (2) anti-picornavirus, (3) anti-paramyxovirus, (4) anti-RSV/anti-influenza, and (5) broad range anti-RNA-virus activity. The model has retained overall accuracies of about 90% on these studies validating model robustness. Finally, we exemplify the practical use of the model with the discovery of compds. 124 and 128. These compds. presented MIC50 values = 3.2 and 8 mg/mL against respiratory syncytial virus (RSV) resp. Both compds. also have low cytotoxicity expressed by their Minimal Cytotoxic Concns. >400 mg/mL for HeLa cells. The present approach represents an effort toward a formalization and application of mol. indexes in bioorg. and medicinal chem. [on SciFinder (R)] 0960-894X antiviral/ QSAR/ RNA/ virus/ carbonucleoside/ topol/ index/ prepn

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Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

1. 1. Five methods for egg surface area determination have been presented and applied to house sparrow, rock dove, domestic fowl, goose and ostrich eggs. The data were compared with a direct measurement integration of small tronchoconic segments measured from the photographic egg profiles. 2. 2. A very good fit was that of surface area estimation of the shell from its weight, density (thus volume was calculated) and thickness. The best method was a modification of this one corrected by egg volume and shell thickness. 3. 3. Simple mathematic models such as the sphere (with a volume equal to that of the egg) and a prolate spheroid gave poor fits for all samples studied. 4. 4. The computation of the surfaces of two paraboloids joined at their bases calculated by a regression method from the photographic profiles of the eggs gave better results, but nevertheless inferior to those found with the shell parameters methods.
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Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: CYTOLOGICAL TECHNIQUES
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: BIOLOGY
MESH HEADINGS: ANIMALS
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: MICROSCOPY
MESH HEADINGS: MICROSCOPY, ELECTRON
MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: PATHOLOGY

MESH HEADINGS: NECROSIS/PATHOLOGY
MESH HEADINGS: NERVOUS SYSTEM DISEASES/PATHOLOGY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: General Biology-Symposia
KEYWORDS: Microscopy Techniques-Cytology and Cytochemistry
KEYWORDS: Cytology and Cytochemistry-Animal
KEYWORDS: Biochemical Studies-General
KEYWORDS: Anatomy and Histology
KEYWORDS: Pathology
KEYWORDS: Pathology
KEYWORDS: Nervous System-Pathology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

464. Good, J. L. , Khurana, R. K., Mayer, R. F., Cintra, W. M., and Albuquerque, E. X. (1993). Pathophysiological Studies of Neuromuscular Function in Subacute Organophosphate Poisoning Induced by Phosmet. *J neurol neurosurg psychiatry* 56: 290-294.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A 51 year old man developed progressive cranial and proximal muscle weakness, hyperreflexia and mental change. The disorder progressed over 9 days following the fifth weekly spraying with the organophosphate (OP) insecticide, phosmet, with limited symptoms of acute toxicity. Marked decremental responses of 50-80% on slow and fast rates of stimulation were improved to 15% by edrophonium or neostigmine. Intracellular recordings at the endplate region of intercostal muscle revealed small miniature endplate potentials (mepps), reduced mean acetylcholine sensitivity and normal membrane potentials. Electronmicroscopy revealed degeneration and regeneration of the endplates. This study demonstrates that OP poisoning due to phosmet can produce a subacute postsynaptic neuromuscular syndrome without marked symptoms of acute toxicity.
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: HUMAN
MESH HEADINGS: BEHAVIOR
MESH HEADINGS: HUMAN
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MEMBRANES/PHYSIOLOGY
MESH HEADINGS: MOVEMENT
MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: THERAPEUTICS
MESH HEADINGS: NEUROSECRETORY SYSTEMS
MESH HEADINGS: MUSCLES/ANATOMY & HISTOLOGY
MESH HEADINGS: MUSCLES/PHYSIOLOGY
MESH HEADINGS: MUSCLES/METABOLISM
MESH HEADINGS: MUSCULAR DISEASES/PATHOLOGY
MESH HEADINGS: MUSCULAR DISEASES/PHYSIOPATHOLOGY

MESH HEADINGS: NERVOUS SYSTEM/PHYSIOLOGY
MESH HEADINGS: NERVOUS SYSTEM/METABOLISM
MESH HEADINGS: NERVOUS SYSTEM DISEASES/PATHOLOGY
MESH HEADINGS: MENTAL DISORDERS/THERAPY
MESH HEADINGS: MENTAL DISORDERS/PATHOLOGY
MESH HEADINGS: PSYCHOPATHOLOGY
MESH HEADINGS: PHARMACOLOGY, CLINICAL
MESH HEADINGS: NERVOUS SYSTEM/DRUG EFFECTS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Cytology and Cytochemistry-Human
KEYWORDS: Behavioral Biology-Human Behavior
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Studies
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Biophysics-Membrane Phenomena
KEYWORDS: Movement (1971-)
KEYWORDS: Pathology
KEYWORDS: Pathology
KEYWORDS: Endocrine System-Neuroendocrinology (1972-)
KEYWORDS: Muscle-Anatomy
KEYWORDS: Muscle-Physiology and Biochemistry
KEYWORDS: Muscle-Pathology
KEYWORDS: Nervous System-Physiology and Biochemistry
KEYWORDS: Nervous System-Pathology
KEYWORDS: Psychiatry-Psychopathology
KEYWORDS: Pharmacology-Clinical Pharmacology (1972-)
KEYWORDS: Pharmacology-Neuropharmacology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Hominidae
LANGUAGE: eng

465. Goonewardene, H. F., Pliego, G., McCabe, G. P., Howard, P. H., and Oliver, P. J. (1989). Control of Arthropods on Apple, Malus X domestica (Borkh.), Selections for Scab (Ascomycetes: Mycosphaerellacea) and Apple Maggot (Diptera: Tephritidae) Resistance in an Orchard in Indiana. *J.Ecol.Entomol.* 82: 1426-1436.
Chem Codes: Chemical of Concern: PAQT,AZ,FNV,CBL,PSM Rejection Code: MIXTURE.

466. Goonewardene, H. F., Pliego, G., McCabe, G. P., Howard, P. H., and Oliver, P. J. (1990). Control of Arthropods on Apple Selections with Scab (Ascomycetes: Mycophaerellaceae) and European Red Mite (Acari: Tetranychidae) Resistance. *J.Econ.Entomol.* 83: 180-188.
Chem Codes: Chemical of Concern: FNV,PSM Rejection Code: REFS CHECKED/REVIEW.

467. Gorbacheva, N. A. (On the Selectivity of the Procedure for Detecting Trichlorometaphos-3. *Farmatsiya (moscow) 6: 34-36* 1974..

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. The selectivity of the thin-layer chromatographic detection and determination of TMC-3 was studied in cadaverous materials in the presence of other organophosphorus pesticides and medicinal preparations. Extraction is done with hexane in the presence of anhydrous sodium sulfate. The extract is first cleaned by redistribution in the hexane-dimethylformamide system, and then by thin-layer chromatography on KSK silica gel in a 5:3 ratio of cyclohexane and chloroform. Following elution with chloroform, the pesticide is identified by thin-layer chromatography, using KSK silica gel layer and a 5:3 ratio of cyclohexane and chloroform as a solvent system. The chromatogram is visualized with palladium reagent or 4-aminoantipyrine. The method is selective and specific for TCM-3 in the presence of anthio, butyphos, diazinon, dursban, carbophos, koral, methylmercaptophos, sayphos, dimethoate, phosaline, phthalophos, and cideal, as well as of the medicinal preparations thiophosphamide, thiodepine, phenothiazine, chloropromazine, isopromethazine, aminazine, mepazine, levomepromazine, disulfiram, and TMTD. Ronnel interferes with the determination.
LANGUAGE: rus

468. Gorbacheva, N. A. and Smirnov, V. M. (Selectivity of Phosphamide (Rogor) Detection in Forensic Chemical Analyses of Cadaverous Materials. *Sud.-Med. Ekspert. 18(4): 29-32; 1975.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. The selectivity and specificity was studied of a thin-layer chromatographic method for the determination of dimethoate (rogor, phosphamide). Following extraction with acidulated water and subsequent extraction with chloroform, the sample was applied on silicic acid layer in benzene, and development was done with a hexane-dioxane mixture at a ratio of 1:1. In the case of cadaverous materials, it was possible to detect dimethoate in the presence of butyphos, gardona, diazinon, dursban, coumaphos, metaphos, methylnitrophos, methylethylthiophos, octamethyl, sayphos, trichlorometaphos-2, phthalophos, phosalone, and and ciodrin. Additional reactions made it possible to detect dimethoate in the presence of trichlorfon and technical grade methylmercaptophos and naled. Quantitative isolation from technical preparations of anthio and carbophos was not possible.
LANGUAGE: rus

469. Gordon, Irit, Abdulla, Elizabeth M., Campbell, Iain C., and Whatley, Stephen A (1998). Phosmet induces up-regulation of surface levels of the cellular prion protein. *NeuroReport* 9: 1391-1395.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1998:409570
Chemical Abstracts Number: CAN 129:185276
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Nerve (neuroblastoma; phosmet induces up-regulation of surface levels of cellular prion protein); Cell membrane (phosmet induces up-regulation of surface levels of cellular prion protein); Prion proteins Role: BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (phosmet induces up-regulation of surface levels of cellular prion protein)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (phosmet induces up-regulation of surface levels of cellular prion protein); 9001-86-9 (Phospholipase C) Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study) (phosmet induces up-regulation of surface levels of cellular prion protein in relation to phospholipase C)
Citations: 1) Prusiner, S; Annu Rev Microbiol 1994, 48, 655

Citations: 2) Horwich, A; Cell 1997, 89, 499
Citations: 3) Collinge, J; Nature 1996, 383, 685
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Citations: 22) Diringer, H; Gen Virol 1991, 72, 457
Citations: 23) Caughey, B; J Neurochem 1992, 59, 768
Citations: 24) Caughey, B; J Virol 1993, 67, 643
Citations: 25) Bessen, R; J Virol 1992, 66, 2096 Chronic (2 day) exposure of human neuroblastoma cells to the organophosphate pesticide phosmet induced a marked concn.-dependent increase in the levels of PrP present on the cell surface as assessed by biotin labeling and immunopptn. Levels of both phospholipase C (PIPLC)-releasable and non-releasable forms of PrP were increased on the plasma membrane. These increases appear to be due to post-transcriptional mechanisms, since PrP mRNA levels as assessed by Northern blotting were unaffected by phosmet treatment. These data raise the possibility that phosmet exposure could increase the susceptibility to the prion agent by altering the levels of accessible PrP. [on SciFinder (R)] 0959-4965 phosmet/ prion/ protein/ neuroblastoma

470. Gore, Robert Howard, Houghton, Richard David, Machleder, Warren Harvey, Mathis, William Dean, Nguyen, Luong Tu, Stevens, Bridget Marie, and Sun, Yan (20010403). Stable pesticide dispersions containing an agricultural oil and a oil-soluble polymer. 11 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:238064
Chemical Abstracts Number: CAN 134:248338
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 35
Coden: USXXAM
Index Terms: Pesticide formulations (dispersions; stable pesticide dispersions contg. agricultural oil and oil-sol. polymer); Liquids (oils, agricultural; stable pesticide dispersions contg. agricultural oil and oil-sol. polymer); Pesticides (stable pesticide dispersions contg. agricultural oil and oil-sol. polymer); Acrylic polymers Role: MOA (Modifier or additive use), USES (Uses) (stable pesticide dispersions contg. agricultural oil and oil-sol. polymer)
CAS Registry Numbers: 130000-40-7 (Thifluzamide) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (Pulsar; in stable dispersions contg. agricultural oil and oil-sol. polymer); 709-98-8 (Propanil); 732-11-6 (Imidan); 1071-83-6 (Glyphosate); 1897-45-6 (Bravo); 8018-01-7 (Dithane); 16227-10-4 (Indar); 23950-58-5 (Kerb); 34731-32-3 (Ethylene bisdithiocarbamate); 38641-94-0 (Glyphosate isopropylamine salt); 39342-58-0; 42874-03-3

(Goal); 82558-50-7 (Gallery); 88671-89-0 (Systhane); 105884-68-2; 114369-43-6 (Fenbuconazole); 117718-60-2 (Visor); 156052-68-5 (RH-7281) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (in stable dispersions contg. agricultural oil and oil-sol. polymer); 112-55-0 (Dodecyl mercaptan); 13467-82-8 (tert-Butyl peroctoate); 32360-05-7 (Stearyl methacrylate); 67296-21-3 (Dimethylaminopropyl methacrylamide) Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of oil-sol. polymer for pesticide dispersions); 137683-21-7 (Methylacrylate-dimethylaminopropyl methacrylamide copolymer) Role: MOA (Modifier or additive use), USES (Uses) (stable pesticide dispersions contg. agricultural oil and oil-sol. polymer)
Patent Application Country: Application: US
Citations: Ryan; US 3030303 1962
Citations: Fordyce; US 3131119 1964
Citations: Knowles; US 3773926 1973
Citations: Hermansky; US 5599768 1997
Citations: Hasslin; US 5674514 1997
Citations: Bott; US 5753248 1998
Citations: Gore; US 6146652 2000 Stable dispersions contain pesticides selected from chlorothalonil, fenbuconazole, thifluzamide, isoxaben, propyzamide, thiazopyr, oxyfluorfen, glyphosate iso-Pr ammonium salt, propanil, phosmet and mixts. thereof, an agricultural oil, and an oil-sol. polymer, optionally consisting of a copolymd. polar monomers. [on SciFinder (R)]
A01N025-02. A01N025-10. pesticide/ dispersion/ agricultural/ oil/ acrylic/ polymer

471. Gore, Robert Howard, Houghton, Richard David, Machleder, Warren Harvey, Mathis, William Dean, Nguyen, Luong Tu, Stevens, Bridget Marie, and Sun, Yan (19981104). Stable pesticide dispersions. 17 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1998:721464
Chemical Abstracts Number: CAN 129:340838
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 38
Coden: EPXXDW
Index Terms: Polymers Role: MOA (Modifier or additive use), PNU (Preparation, unclassified), PREP (Preparation), USES (Uses) (agricultural oil-sol.; prepn. as formulation ingredient in stable pesticide dispersions); Pesticide formulations (stable dispersions)
CAS Registry Numbers: 27323-09-7P; 27357-93-3P; 31473-56-0P; 65442-29-7P; 68171-46-0P; 68171-50-6P; 70632-13-2P; 104181-85-3P; 126112-78-5P; 147358-21-2P; 152187-57-0P; 156984-50-8P; 192888-53-2P; 215500-37-1P; 215500-38-2P; 215500-39-3P; 215500-40-6P; 215500-41-7P; 215500-42-8P; 215500-43-9P; 215500-44-0P; 215500-45-1P; 215500-46-2P; 215500-47-3P Role: MOA (Modifier or additive use), PNU (Preparation, unclassified), PREP (Preparation), USES (Uses) (prepn. as formulation ingredient in stable pesticide dispersions); 709-98-8 (Propanil); 732-11-6 (Phosmet); 1897-45-6 (Chlorothalonil); 23950-58-5 (Propyzamide); 38641-94-0 (Roundup); 42874-03-3; 82558-50-7 (Isoxaben); 88671-89-0 (Myclobutanil); 114369-43-6 (Fenbuconazole); 117718-60-2 (Thiazopyr); 130000-40-7 (Thifluzamide) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (stable dispersions of)
Reg.Pat.Tr.Des.States: Designated States R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO.
Patent Application Country: Application: EP
Priority Application Country: US
Priority Application Number: 97-45195
Priority Application Date: 19970430 Stable dispersions of certain pesticides in agricultural oil are provided. In particular, the dispersions include a particulate pesticide, agricultural oil, and an

agricultural oil-sol. polymer, the polymer in some instances contg. a copolymd. polar monomer. The agricultural oil-sol. polymer has a lower mol. wt. than previously disclosed. Suitable pesticides are chlorothalonil, myclobutanil, fenbuconazole, thifluzamide, isoxaben, propyzamide, thiazopyr, etc. A suitable polymer is poly(stearyl methacrylate-dimethylaminopropyl methacrylamide) (prepn. given). [on SciFinder (R)] A01N025-04. A01N025-04; A01N057-20; A01N057-16; A01N047-36; A01N043-78; A01N043-653; A01N037-34; A01N037-24; A01N037-22; A01N037-18; A01N031-16. pesticide/ dispersion/ oil/ soluble/ polymer/ prepn

472. Gorelik, L. D., Kushchinskaya, I. N., and Sazonova, A. G. (Lowering the Phthalophos Level During the Preparation of Canned Apple Sauce. *Konserv. Ovoshchesush. Prom.7: 21-23; 1973.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB Studies were done on the effects of industrial processing operations on the reduction of the phthalophos residue level in apples during production of canned apple sauce as baby food and the effects of deep-freezing on the phthalophos residue dynamics in carrots, cabbage, and beets. In the apple sauce canning technology, blanching, crushing, and sterilization reduced the phthalophos residue level 51%, 28%, and 16-25%, respectively. Deep-freezing even for a prolonged time resulted in neglible reduction of the phthalophos level. Vegetables containing phthalophos in excess of the maximum allowable concentration of 0. 25 mg/kg should not be frozen prior to processing.
LANGUAGE: rus

473. Goto, S. (Analytical Methods of Pesticide Residues Based on the Notification Environmental Agency. Part 1. Insecticides. *Nippon noyaku gakkaishi (j. Pestic. Sci.) 3(2): 169-178 1978 (9 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. Although the presence and measuring methods of pesticide residues are regulated by the Food Hygiene Act in Japan, the number of pesticides covered by this law is only 24. Pesticide residues which were not standardized by this act are to be soon regulated by the Environmental Agency. Currently 70 pesticides are under study for standardization. This report deals with the insecticides isozanthion, ethion, ethyl thimethon, chlorpyriphos, chlorphenamidime, chloropropiolate, dialifor, dimethoate, tetradifon, benzomate, phosalone, formothion, methomyl, chlorfenethol, o-sec-butylphenyl methylcarbamate, propargite, naled, chlorfenson, chlorfenvinphos, tetrachlorvinphos, dichlorvos, trichlorfon, methidathion, phenthoate, propoxur and phosmet. Methods of determination, also under consideration, are briefly described.
LANGUAGE: jpn

474. Goyal, Sandhya, Kundu, Subhas, Moros, Daniel, Rutman, Howard, and Yacobi, Avraham (20060216). Ectoparasiticidal topical gel for humans. 52 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:147290
Chemical Abstracts Number: CAN 144:199055
Section Code: 63-8
Section Title: Pharmaceuticals
Coden: PIXXD2
Index Terms: Parasiticides (ecto-; ectoparasiticidal topical gel for humans); Human; Pediculus humanus capitis; Pthirus pubis; Sarcoptes scabiei (ectoparasiticidal topical gel for humans); Glycols Role: MOA (Modifier or additive use), USES (Uses) (ectoparasiticidal topical gel for humans)
CAS Registry Numbers: 56-38-2 (Parathion); 78-34-2 (Dioxathion); 121-75-5 (Malathion); 732-11-6 (Phosmet); 13071-79-9 (Terbufos); 22204-24-6 (Pyrantel pamoate); 31900-57-9 (Polydimethylsiloxane); 34643-46-4 (Prothiophos); 60018-95-3 (Permethrin-piperonyl butoxide mixt); 129249-19-0 (Pyrethrin-piperonyl butoxide mixt) Role: BUU (Biological use, unclassified),

BIOL (Biological study), USES (Uses) (ectoparasiticidal topical gel for humans); 57-55-6 (Propylene glycol); 64-17-5 (Ethanol); 67-63-0 (2-Propanol); 67-64-1 (Acetone); 110-27-0 (Isopropyl myristate); 872-50-4 (N-Methylpyrrolidone); 9004-64-2 (KlucelHF); 131929-64-1 (Spinosyne) Role: MOA (Modifier or additive use), USES (Uses) (ectoparasiticidal topical gel for humans)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2004-587291
Priority Application Date: 20040712
Citations: Elgar; GB 2222949 A 1990
Citations: Bell; US 6596291 B2 2003
Citations: Bessette; US 20030036530 A1 2003
Citations: Goldie; GB 2204243 A 1988 The invention provides a topical gel formulation of an insecticide suitable for ectoparasite control in a mammal, comprising 0.1-10 % by wt. insecticide and >=75 % by wt. of an org. solvent selected from a lower alkyl alc., a ketone and/or a glycol. The org. solvent contains >=40 % by wt. of the lower alkyl alc. Also present in the gel is a polymer selected from cellulosic polymers, acrylates, methacrylates, and polyvinyl pyrrolidone. [on SciFinder (R)] A01N025-04. ectoparasiticide/ topical/ gel/ human

475. Goyal, Sandhya, Kundu, Subhas, Moros, Daniel, Rutman, Howard, and Yacobi, Avraham (20070322). Ectoparasiticidal topical gel or lotion formulation comprising organophosphate insecticides. 22pp., Cont.-in-part of U.S. Ser. No. 179,719.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:332992
Chemical Abstracts Number: CAN 146:310972
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: USXXCO
Index Terms: Glycerides Role: MOA (Modifier or additive use), USES (Uses) (C6-12; ectoparasiticidal topical gel or lotion formulation comprising organophosphate insecticides); Parasiticides (ecto-; ectoparasiticidal topical gel or lotion formulation comprising organophosphate insecticides); Pediculus humanus capitis (ectoparasiticidal topical gel or lotion formulation comprising organophosphate insecticides); Polyoxyalkylenes Role: MOA (Modifier or additive use), USES (Uses) (ectoparasiticidal topical gel or lotion formulation comprising organophosphate insecticides); Insecticides (organophosphorus; ectoparasiticidal topical gel or lotion formulation comprising organophosphate insecticides)
CAS Registry Numbers: 56-38-2 (Parathion); 78-34-2 (Dioxathion); 121-75-5 (Malathion); 732-11-6 (Phosmet); 13071-79-9 (Terbufos); 34643-46-4 (Prothiofos) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (ectoparasiticidal topical gel or lotion formulation comprising organophosphate insecticides); 57-55-6 (Propylene glycol); 67-63-0 (2-Propanol); 107-41-5 (Hexylene glycol); 110-27-0 (Isopropyl myristate); 138-86-3 (Dipentene); 9004-64-2 (Klucel); 25322-69-4 (Polypropylene glycol) Role: MOA (Modifier or additive use), USES (Uses) (ectoparasiticidal topical gel or lotion formulation comprising organophosphate insecticides)
Patent Application Country: Application: US

Priority Application Country: US
Priority Application Number: 2004-587291
Priority Application Date: 20040712 The invention provides a topical gel lotion ectoparasiticidal formulation for mammals comprising: (a) 0.1-10% by wt. organophosphate insecticide; (b) >=75% by wt. org. solvent selected from lower alkyl alcs., ketones and/or glycols, wherein the org. solvent contains >=40% by wt. the lower alkyl alc.; and (c) polymer(s) selected from cellulosic polymer, acrylates, methacrylates, and PVP. The topical formulations encompass non-flammable solvents for malathion, the prefered insecticide, and are effective in killing head lice. [on SciFinder (R)] ectoparasiticide/ topical/ gel/ lotion/ organophosphate/ insecticide

476. Goyal, Sandhya, Kundus, Subhas, Moros, Daniel, Rutman, Howard, and Yacobi, Avraham (20060216). Topical human ectoparasiticidal gel comprising organophosphate insecticide. 54 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:147289
Chemical Abstracts Number: CAN 144:186485
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Parasiticides (ecto-; topical human ectoparasiticidal gel comprising organophosphate insecticide and); Insecticides (organophosphorus; topical human ectoparasiticidal gel comprising organophosphate insecticide and); Human (topical human ectoparasiticidal gel comprising organophosphate insecticide and); Acrylic polymers Role: MOA (Modifier or additive use), USES (Uses) (topical human ectoparasiticidal gel comprising organophosphate insecticide and)
CAS Registry Numbers: 52-68-6; 56-38-2 (Parathion); 60-51-5 (Dimethoate); 78-34-2 (Dioxathion); 78-48-8 (Tribufos); 86-50-0 (Azinphosmethyl); 115-90-2 (Fensulfothion); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 144-41-2 (Morphothion); 298-00-0 (Methyl Parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 300-76-5 (Naled); 470-90-6; 563-12-2 (Ethion); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 2275-14-1 (Phencapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphosethyl); 2778-04-3 (Endothion); 3734-95-0 (Cyanthoate); 5826-76-6 (Phosnichlor); 7173-84-4 (Danifos); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 8065-48-3D (Demeton); 10311-84-9 (Dialifos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 14816-18-3 (Phoxim); 18854-01-8 (Isoxathion); 20276-83-9 (Prothidathion); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9; 23505-41-1 (Pirimiphosethyl); 24151-93-7 (Piperophos); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 29232-93-7 (,Pirimiphosmethyl); 30560-19-1 (,Acephate); 34643-46-4 (Prothiofos); 35575-96-3 (Azamethiphos); 37032-15-8 (Sophamide); 41198-08-7 (Profenofos); 42509-80-8 (Isazofos); 54593-83-8 (Chlorethoxyfos); 57018-04-9 (Tolclofosmethyl); 83733-82-8 (Fosmethilan); 95465-99-9 (Cadusafos); 96182-53-5 (Tebupirimfos) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (topical human ectoparasiticidal gel comprising organophosphate insecticide); 57-55-6 (Propylene glycol); 67-63-0 (2-Propanol); 67-64-1 (Acetone); 110-27-0 (Isopropyl myristate); 9003-39-8 (Polyvinyl pyrrolidone.); 9004-64-2 (KlucelHF) Role: MOA (Modifier or additive use), USES (Uses) (topical human ectoparasiticidal gel comprising organophosphate insecticide and)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR,

IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2004-587291
Priority Application Date: 20040712
Citations: Nezat; US 4520013 A 1985
Citations: Bell; US 6596291 A 2003
Citations: Bessette; US 20030036530 A1 2003
Citations: Goldie; GB 2204243 A 1988
Citations: Elgar; GB 2222949 A1 1990 The invention provides a topical gel formulation of an insecticide suitable for treating an ectoparasite in a mammal, comprising: (a) about 0.1-10 % by wt. organophosphate insecticide; (b) >=75 % by wt. org. solvent selected from a lower alkyl alc., a ketone and/or a glycol; and (c) at least one polymer selected from cellulosic polymers, acrylates, methacrylates, and polyvinyl pyrrolidone. The org. solvent contains >=40 % by wt. lower alkyl alc. The formulation preferably contains malathion and optionally contains iso-Pr myristate. [on SciFinder (R)] A01N025-04. human/ ectoparasiticide/ gel/ organophosphate/ insecticide

477. Gradis, W. H. and Sutton, T. B. (1981). Effect of Insecticides, Nutrients, and Adjuvants on In Vitro Fungistatic and Fungicidal Activity of Captan and Mancozeb. *Plant Dis.* 65: 356-358.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: IN VITRO.

478. Gramatica, P., Corradi, M., and Consonni, V (2000). Modelling and prediction of soil sorption coefficients of non-ionic organic pesticides by molecular descriptors. *Chemosphere* 41: 763-777 .
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:348625
Chemical Abstracts Number: CAN 133:100891
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 19
Document Type: Journal
Language: written in English.
Index Terms: Pesticides; Simulation and Modeling; Soils; Sorption (modeling and prediction of soil sorption coeffs. of nonionic org. pesticides by mol. descriptors); Structure-activity relationship (soil-sorbing; of nonionic org. pesticides)
CAS Registry Numbers: 50-29-3; 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Ethyl parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 63-99-0 (3-Methylphenylurea); 64-10-8 (Phenylurea); 72-43-5 (Methoxychlor); 72-55-9; 76-44-8 (Heptachlor); 86-50-0 (Azinphos methyl); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 101-42-8 (Fenuron); 101-99-5 (Ethyl-N-phenylcarbamate); 114-26-1 (Propoxur); 114-38-5 (2-Chlorophenylurea); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-14-5; 122-34-9 (Simazine); 122-42-9 (Propham); 139-40-2 (Propazine); 141-66-2; 148-79-8 (Thiabendazole); 150-68-5 (Monuron); 297-99-4 (trans-Phosphamidon); 298-00-0 (Parathion methyl); 298-01-1 (cis-Mevinphos); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2; 309-00-2 (Aldrin); 330-39-2; 330-54-1 (Diuron); 330-55-2 (Linuron); 332-33-2; 333-41-5 (Diazinon); 338-45-4 (trans-Mevinphos); 555-37-3 (Neburon); 563-12-2 (Ethion); 587-34-8 (N-(3-Chlorophenyl)-N',N'-dimethylurea); 656-31-5 (2-Fluorophenylurea); 659-30-3 (4-Fluorophenylurea); 732-11-6 (Phosmet); 759-94-4 (EPTC); 770-19-4; 786-19-6 (Carbophenothion); 834-12-8 (Ametryn); 886-50-0 (Terbutryn); 886-59-9 (N-Phenyl-N'-cyclohexylurea); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1538-74-5 (Butyl-N-phenylcarbamate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1746-81-2 (Monolinuron); 1861-40-1 (Benfluralin); 1912-24-9

(Atrazine); 1912-25-0 (Ipazine); 1912-26-1 (Trietazine); 1918-16-7 (Propachlor); 1918-18-9 (Methyl-N-(3,4-dichlorophenyl)carbamate); 1929-77-7 (Vernolate); 1967-16-4 (Chlorbufam); 1967-25-5 (4-Bromophenylurea); 1967-27-7 (3-Chlorophenylurea); 1982-47-4 (Chloroxuron); 1982-49-6 (Siduron); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2150-88-1 (Methyl-N-(3-chlorophenyl)carbamate); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2327-02-8 (3,4-Dichlorophenylurea); 2425-10-7; 2603-10-3 (Methyl-N-phenylcarbamate); 2921-88-2 (Chlorpyrifos); 2989-98-2 (3-Bromophenylurea); 3060-89-7 (Metobromuron); 3337-71-1 (Asulam); 3567-62-2 (N-(3,4-Dichlorophenyl)-N'-methylurea); 3766-81-2 (Fenobucarb); 4147-51-7 (Dipropetryn); 4559-87-9; 4726-14-1 (Nitralin); 5532-90-1 (Propyl N-phenylcarbamate); 5598-13-0 (Chlorpyrifos methyl); 5915-41-3 (Terbuthylazine); 6923-22-4; 7160-01-2; 7160-02-3 (N-(4-Methoxyphenyl)-N',N'-dimethylurea); 7287-19-6 (Prometryn); 7700-17-6 (Crotoxyphos); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazime); 12789-03-6 (Chlordane); 13071-79-9 (Terbufos); 13114-87-9 (3-Trifluoromethylphenylurea); 13140-86-8; 13140-89-1; 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17708-57-5 (cis-Diallate); 17708-58-6 (Trans-Diallate); 17804-35-2 (Benomyl); 18708-86-6 (trans-Chlorfenvinphos); 18708-87-7 (cis-Chlorfenvinphos); 19044-88-3 (Oryzalin); 19095-79-5; 19666-30-9 (Oxadiazon); 19937-59-8 (Metoxuron); 20782-57-4; 20940-42-5 (N-(3-Chlorophenyl)-N'-methylurea); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 22175-22-0; 22224-92-6 (Fenamiphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 23783-98-4 (cis-Phosphamidon); 24151-93-7 (Piperophos); 25277-05-8; 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 28170-54-9; 28249-77-6 (Thiobencarb); 29091-05-2 (Dinitramine); 29091-21-2 (Prodiamine); 29232-93-7; 30560-19-1 (Acephate); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33820-53-0 (Isopropalin); 34014-18-1 (Tebuthiuron); 34256-82-1 (Acetochlor); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 36627-56-2; 36734-19-7 (Iprodione); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41814-78-2 (Tricyclazole); 42509-80-8 (Isazophos); 43121-43-3 (Triadimefon); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 55283-68-6 (Ethalfluralin); 57837-19-1 (Metalaxyl); 59669-26-0 (Thiodicarb); 60207-90-1 (Propiconazole); 63075-06-9 (Pentyl-N-phenylcarbamate); 66215-27-8 (Cyromazine); 78508-43-7; 78508-44-8 (4-Phenoxyphenylurea); 78508-45-9; 78508-46-0; 88671-89-0 Role: GPR (Geological or astronomical process), POL (Pollutant), OCCU (Occurrence), PROC (Process) (modeling and prediction of soil sorption coeffs. of nonionic org. pesticides by mol. descriptors)

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Citations: Todeschini, R; Part 1 J Chemometrics 1994, 8, 263
Citations: Todeschini, R; Chemom Intell Lab Syst 1999, 46, 13
Citations: Todeschini, R; SAR QSAR Environ Res 1997, 7, 173
Citations: Todeschini, R; Chemosphere 1996, 32, 1527
Citations: Von Oepen, B; Chemosphere 1991, 22, 285
Citations: Wauchope, R; Rev Environ Contam Toxicol 1992, 123, 1 Soil sorption coeffs. (KOC) of 185 nonionic org. heterogeneous pesticides have been studied searching for quant. structure-property relationships (QSPRs). The chem. description of pesticide structure has been made in terms of some mol. descriptors: count descriptors, topol. indexes, information indexes, fragment-based descriptors and weighted holistic invariant mol. (WHIM) descriptors; these last are statistical indexes describing size, shape, symmetry and atom distribution of mols. in the three-dimensional space. Three new topol. indexes derived from the electrotopol. state indexes of L.B. Kier, et al. (1991) were proposed. Multiple linear regression anal. was performed after previous selection of the descriptors mostly correlated to the response by Genetic Algorithms. The obtained results confirm the capability of the proposed approach to give predictive models for one of the most important partition properties, such as soil sorption coeff. (KOC). [on SciFinder (R)]

0045-6535 model/ soil/ sorption/ nonionic/ org/ pesticide/ mol/ descriptors

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Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:356947
Chemical Abstracts Number: CAN 137:181089
Section Code: 5-6
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Environmental modeling; Partition; Principal component analysis (pesticide screening for environmental partitioning tendency by combining physicochem. properties by principal component anal. and modeling leaching and volatility indexes); Environmental transport; Volatility (principal component anal. macrovariables relating to leaching and volatility as pesticide environmental partitioning indexes); Pesticides (screening of pesticides for environmental partitioning tendency by combining physicochem. properties by principal component anal. and modeling leaching and volatility indexes)
CAS Registry Numbers: 50-29-3; 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-55-9; 76-44-8 (Heptachlor); 86-50-0 (Azinphos methyl); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 101-42-8 (Fenuron); 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-42-9 (Propham); 139-40-2 (Propazine); 141-66-2 (Dicrotophos); 148-79-8 (Thiabendazole); 150-68-5 (Monuron); 297-99-4 (trans-Phosphamidon); 298-00-0 (Parathion methyl); 298-01-1 (cis-Mevinphos); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 309-00-2 (Aldrin); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 834-12-8 (Ametryn); 886-50-0 (Terbutryn); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1646-88-4 (Aldicarb sulfone); 1746-81-2 (Monolinuron); 1861-40-1 (Benfluralin); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 1967-16-4 (Chlorbufam); 1982-47-4 (Chloroxuron); 1982-49-6 (Siduron); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2425-10-7 (Xylylcarb); 2921-88-2 (Chlorpyrifos); 3060-89-7 (Metobromuron); 3337-71-1 (Asulam); 3766-81-2 (Fenobucarb); 4147-51-7 (Dipropetryn); 4726-14-1 (Nitralin); 5598-13-0 (Chlorpyrifos methyl); 5915-41-3 (Terbuthylazine); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7700-17-6 (Crotoxyphos); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 12789-03-6 (Chlordane); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17708-57-5 (cis-Diallate); 17804-35-2 (Benomyl); 18708-87-7 (cis-Chlorfenvinphos); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazon); 19937-59-8 (Metoxuron); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 24151-93-7 (Piperophos); 26087-47-8 (Iprobenfos); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 28249-77-6 (Thiobencarb); 29091-05-2 (Dinitramine); 29091-21-2 (Prodiamine); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33820-53-0 (Isopropalin); 34014-18-1 (Tebuthiuron); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41814-78-2 (Tricyclazole); 42509-80-8 (Isazophos); 43121-43-3 (Triadimefon); 51218-45-2 (Metolachlor); 55283-68-6 (Ethalfluralin); 57837-19-1

(Metalaxyl); 59669-26-0 (Thiodicarb); 60207-90-1 (Propiconazole); 66215-27-8 (Cyromazine); 88671-89-0 (Myclobutanil) Role: PEP (Physical, engineering or chemical process), POL (Pollutant), PRP (Properties), PYP (Physical process), OCCU (Occurrence), PROC (Process) (pesticide screening for environmental partitioning tendency by combining physicochem. properties by principal component anal. and modeling leaching and volatility indexes)
Citations: Altenburger, R; Sci Tot Environ Suppl 1993, 1633
Citations: Atkinson, A; Plots, Transformations and Regression 1985, 282
Citations: Anon; Topological Indices and Related Descriptors in QSAR and Drug Design 2000, 824
Citations: Gramatica, P; Trends Anal Chem 1999, 18, 461
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Citations: Gustafson, D; Environ Toxicol Chem 1989, 8, 339
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Citations: Taub, F; Pesticide Chemistry 1991, 423
Citations: Todeschini, R; MOBY DIGS--software for multilinear regression analysis and variable subset selection by genetic algorithm, Rel 2.1 for Windows 1999
Citations: Todeschini, R; DRAGON--software for the calculation of molecular descriptors, Version 1.0 for Windows, http://www.disat.unimib.it/chm 2000
Citations: Todeschini, R; Handbook of Molecular Descriptors 2000, 667
Citations: Todeschini, R; Quant Struct Act Relat 1997, 16, 113
Citations: Todeschini, R; J Chemom 1994, 8, 263
Citations: Todeschini, R; Chemom Intell Lab Syst 1999, 46, 13
Citations: Todeschini, R; Chemosphere 1996, 32, 1527 The partitioning tendency of chems., in this study pesticides in particular, into different environmental compartments depends mainly on the concurrent relevance of the physicochem. properties of the chem. itself. To rank the pesticides according to their distribution tendencies in the different environmental compartments, the authors propose a multivariate approach: the combination, by principal component anal., of those physicochem. properties like org. carbon partition coeff. (Koc), n-octanol/water partition coeff. (Kow), water soly. (Sw), vapor pressure and Henry's law const. (H) that are more relevant to the detn. of environmental partitioning. The resultant macrovariables, the PC1 and PC2 scores here named leaching index (LIN) and volatility index (VIN), are proposed as preliminary environmental partitioning indexes in different media. These two indexes are modeled by theor. mol. descriptors with satisfactory predictive power. Such an approach allows a rapid predetn. and screening of the environmental distribution of pesticides starting only from the mol. structure of the pesticide, without any a priori knowledge of the physicochem. properties. [on SciFinder (R)] 0045-6535 pesticide/ environment/ partitioning/ physicochem/ chemometrics/ modeling

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Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

481. Griffiths, W. D. and Vaughan, N. P. (1986). The aerodynamic behaviour of cylindrical and spheroidal particles when settling under gravity. *Journal of Aerosol Science* 17: 53-65.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

A Timbrell Aerosol Spectrometer was used to size-select several types of airborne polydisperse particles: approximately unit density spheres, `Fiberfrax' glass fibres and oblate spheroid shaped Arthrinium fungus spores by virtue of their settling velocities due to gravity. The spores had a much narrower size distribution than the others. The spheres were used as the basic calibrating material. The aerodynamic behaviour of the glass fibres under viscous conditions (1.2 x 10-2 [less, approximate] Vg [less, approximate] 0.75 cm s-1), was shown by experiment to be best described by representing the fibres either as straight cylindrical particles or prolate spheroids sedimenting in a direction perpendicular to their polar (major) axes. The aerodynamic diameter, [phi]a, of the cylinders is computed by means of Cox's theory, and that of the prolate spheroids by means of either a volume-corrected or a weight-corrected variation of the theory developed by Oseen. In the range 1.2 x 10-2 [less, approximate] Vg [less, approximate] 0.2 cm s-1 (2 [less, approximate] [phi]a [less, approximate] 8 [mu]m) any one of these theories, as well as the orthodox Oseen theory, was found suitable. The aerodynamic behaviour of the Arthrinium spores tested under the same conditions was shown to be the same as that of oblate spheroids sedimenting in directions parallel to their polar (minor) axes; with [phi]a derived through the orthodox Oseen theory.
http://www.sciencedirect.com/science/article/B6V6B-48B0K9C-4B/2/ecd1363cbbc43ecb38de80754d67ed37

482. Groch, L. and Svobodova, Z. (Histopathological Changes in Fish Poisoned With Organophosphate Pesticides. *Cesk. Hyg. 19(1): 442-444* 1974..
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. Changes were found in the anatomy and physiology of young carp after administration of organophosphorus pesticides. The fish were exposed to Metathion E-50 (active ingredient content 43% fenitrothion) at 0.0096 ml/l, Brevinyl E-50 (active ingredient content 50% dichlorvos at 0.051 mg/l or Decemtion P-6 (active ingredient content 6% phosmet) at 191 mg/l aquarium water for 48 hr. Intoxication in the first two cases was manifested by massive vasodilation with venostasis in the gills and impairment of circulation in the respiratory apparatus. Less severe changes were found in the heart, liver, and pancreas. Marked dystrophic changes, especially vacuolation, were observed in the hepatocytes after intoxication with Decemtion. P-6.
LANGUAGE: cze

483. Groch, L. and Svobodova, Z. (Histopathological Studies in Fish Poisoned With Organophosphate Pesticides. *Cesk. Hyg. 19(9): 422-444,465-466* 1974..
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. Histopathological changes were investigated in young carp (Cyprinus carpio L.) after intoxication with organophosphorus insecticides. Besides a control group, three groups were placed in solutions of the following for 48 hours: metathion E-5 (active ingredient content 43% fenitrothion) 0.096 ml/l; Brenvinyl E-50 (active ingredient content 50% dichlorvos) 0.051 ml/l; and Decemtion P-6 (active ingredient content 6% phosmet) 191 mg/l. Five pieces of Kr-1 were placed in each of the solutions. The group intoxicated with metathion E-50 showed vasodilation of the gill covers with blood congestion and venostasis, and vacuolation of the upper respiratory epithelia and hepatocytes. Insufficient coloring of the pancreatic acinar cells, dilation of renal tubules, and spreading of the myocardium were also found. Vasodilation and venostatis of the gills, damaged respiratory epithelia, vacuolation of the hepatocytes, and fragmentation and sufficient coloring of the musculature were noted in the group intoxicated with Brenvinyl. Necrobiotic changes in the liver cells, vacuolation of renal tubules, dystrophic changes in the upper respiratory epithelia, and vacuolation of the hepatocytes were observed in the group intoxicated with Decemtion P-6.
LANGUAGE: cze

484. Grotendorst, G. R. and Hessinger, D. A. *. (1999). Purification and Partial Characterization of the Phospholipase a Sub(2) and Co-Lytic Factor From Sea Anemone (Aiptasia Pallida) Nematocyst Venom. *Toxicon [Toxicon]. Vol. 37, no. 12, pp. 1779-1796. Dec 1999.*

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, BIOLOGICAL TOXICANT.

ISSN: 0041-0101
Descriptors: Article Subject Terms: Venom
Descriptors: Phospholipase A2
Descriptors: Chemical composition
Descriptors: Stinging organs
Descriptors: Biological poisons
Descriptors: Article Taxonomic Terms: Aiptasia pallida
Abstract: Functional nematocysts of one specific morphological class, the penetrant microbasic mastigophores, were isolated from the sea anemone, Aiptasia pallida. These nematocysts contain a multicomponent venom composed of several proteins, including those with neurotoxic, hemolytic, and lethal activities. Hemolytic activity is produced by at least three synergistic venom proteins. One of these proteins is identified as a phospholipase A sub(2) (EC 3.1.1.4) which exists in two isozymic forms, alpha and beta , with molecular weights of 45,000 and 43,000, respectively. The beta isozyme has been purified to homogeneity. It is a single-chained glycoprotein with an isoelectric point (pI) of 8.8 and represents 70% of the phospholipase activity of the venom. The activity of the beta isozyme is relatively labile and is inactivated by 3.5 M urea or by heating at 45 degree C. It is most stable at pH 4.0 and loses 50% of its activity at pH values below 3.5 and above 8.0. A second venom protein has also been purified. It is essential for the hemolytic activity of the venom and is termed co-lytic factor (CLF). It is a monomeric glycoprotein having a pI of 4.5. CLF has a molecular weight of approximately 98,000, a sedimentation coefficient of 4.8 S, and is prolate in shape, having a frictional ratio of about 1.6. CLF constitutes about 1.25% of the total venom protein and is assayed by reversing fatty acid inhibition of the venom hemolysis activity.
Language: English
English
Publication Type: Journal Article
Environmental Regime: Marine
Classification: Q4 27390 Toxins
Classification: Q1 01246 Physiology, biochemistry, biophysics
Classification: Q5 01524 Public health, medicines, dangerous organisms
Classification: X 24173 Animals
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; ASFA Marine Biotechnology Abstracts; ASFA 1: Biological Sciences & Living Resources; Toxicology Abstracts

485. Grotendorst, Gary R. and Hessinger, David A. (1999). Purification and partial characterization of the phospholipase A2 and co-lytic factor from sea anemone (Aiptasia pallida) nematocyst venom. *Toxicon* 37: 1779-1796.
Chem Codes: Chemical of Concern: PSM Rejection Code: BIOLOGICAL TOXICANT.

Functional nematocysts of one specific morphological class, the penetrant microbasic mastigophores, were isolated from the sea anemone, Aiptasia pallida. These nematocysts contain a multicomponent venom composed of several proteins, including those with neurotoxic, hemolytic, and lethal activities. Hemolytic activity is produced by at least three synergistic venom proteins. One of these proteins is identified as a phospholipase A2 (EC 3.1.1.4) which exists in two isozymic forms, [alpha] and [beta], with molecular weights of 45,000 and 43,000, respectively. The [beta] isozyme has been purified to homogeneity. It is a single-chained glycoprotein with an isoelectric point (pI) of 8.8 and represents 70% of the phospholipase activity of the venom. The activity of the [beta] isozyme is relatively labile and is inactivated by 3.5 M urea or by heating at 45[degree sign]C. It is most stable at pH 4.0 and loses 50% of its activity at pH values below 3.5 and above 8.0. A second venom protein has also been purified. It is essential for the hemolytic activity of the venom and is termed co-lytic factor (CLF). It is a monomeric glycoprotein having a pI of 4.5. CLF has a molecular weight of approximately 98,000, a sedimentation coefficient of 4.8 S, and is prolate in shape, having a frictional ratio of about 1.6. CLF constitutes about 1.25% of

the total venom protein and is assayed by reversing fatty acid inhibition of the venom hemolysis activity. Hemolysis/ Toxin/ Venom/ Phospholipase A2/ Co-lytic factor/ Sea anemone/ Aiptasia pallida, Nematocyst http://www.sciencedirect.com/science/article/B6TCS-3X9425F-D/2/f5bd27683c941af44c1d41334684128b

486. Guan, Yafeng, Wang, Hanwen, and Liu, Wenmin (2004). On-line coupling of in-tube solid phase microextraction to capillary gas chromatography for trace analysis of aqueous samples. *Sepu* 22: 354-357.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2004:724513
Chemical Abstracts Number: CAN 142:416622
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 47, 80
Document Type: Journal
Language: written in English.
Index Terms: Alkanes Role: ANT (Analyte), ANST (Analytical study) (C10-19; trace pollutant detn. in water by online coupled, in-tube solid phase micro-extn. to capillary gas chromatog.); Polycyclic compounds Role: ANT (Analyte), ANST (Analytical study) (arom. hydrocarbons; trace pollutant detn. in water by online coupled, in-tube solid phase micro-extn. to capillary gas chromatog.); Extraction (in-tube solid-phase micro-; trace pollutant detn. in water by online coupled, in-tube solid phase micro-extn. to capillary gas chromatog.); Pesticides (organochlorine and organophosphorus; trace pollutant detn. in water by online coupled, in-tube solid phase micro-extn. to capillary gas chromatog.); Aromatic hydrocarbons Role: ANT (Analyte), ANST (Analytical study) (polycyclic; trace pollutant detn. in water by online coupled, in-tube solid phase micro-extn. to capillary gas chromatog.); Capillary gas chromatography (trace pollutant detn. in water by online coupled, in-tube solid phase micro-extn. to capillary gas chromatog.)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (trace pollutant detn. in water by online coupled, in-tube solid phase micro-extn. to capillary gas chromatog.); 50-29-3; 50-32-8 (Benzo[a]pyrene); 52-68-6 (Trichlorfon); 53-19-0; 53-70-3 (Dibenz[a,h]anthracene); 56-38-2 (Parathion ethyl); 56-55-3 (Benzo(a)anthracene); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 72-54-8; 72-55-9; 77-47-4 (Hexachlorocyclopentadiene); 82-68-8 (Pentachloronitrobenzene); 83-32-9 (Acenaphthene); 84-66-2 (Diethylphthalate); 84-74-2 (Di-n-butylphthalate); 85-01-8 (Phenanthrene); 85-68-7 (Butylbenzyl phthalate); 86-30-6 (N-Nitrosodiphenylamine); 86-73-7 (Fluorene); 91-20-3 (Naphthalene); 99-30-9 (Dicloran); 115-32-2 (Kelthane); 120-12-7 (Anthracene); 121-75-5 (Malathion); 129-00-0 (Pyrene); 191-24-2 (Benzo[ghi]perylene); 193-39-5 (Indeno[1,2,3-cd]pyrene); 205-99-2 (Benzo(b)fluoranthene); 206-44-0 (Fluoranthene); 207-08-9 (Benzo[k]fluoranthene); 208-96-8 (Acenaphthylene); 218-01-9 (Chrysene); 298-00-0 (Parathion methyl); 311-45-5 (Paraoxon); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Imidan); 789-02-6; 1113-02-6 (Omethoate); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 3424-82-6; 5598-13-0 (Chlorpyrifos methyl); 10265-92-6 (Methamidophos); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos methyl); 31218-83-4 (Propetamphos); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 50471-44-8 (Vinclozolin); 52918-63-5; 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 64363-96-8 (trans-Deltamethrin); 66267-77-4; 67614-33-9; 91465-08-6 (l-Cyhalothrin) Role: ANT (Analyte), ANST (Analytical study) (trace pollutant detn. in water by online coupled, in-tube solid phase micro-extn. to capillary gas chromatog.)
Citations: 1) Arthur, C; Anal Chem 1990, 62, 2145
Citations: 2) Lord, H; J Chromatogr A 2000, 885, 153
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Citations: 7) Mol, H; J High Resolut Chromatogr 1993, 16, 413
Citations: 8) Hanwen, W; LC-GC North America 2004, 22(1), 16
Citations: 9) Baltussen, E; J Microcol Sep 1999, 11, 737 A novel in-tube solid phase micro-extn. (ITSPME) device coupled online with capillary gas chromatog. (CGC) was developed to det. pollutants in water. The extractor is connected to a transfer line through a micro T-piece after a valve, permitting transfer of thermal-desorbed components directly into GC instead of through a valve. High sample flow rate and vacuum are used during the extn. to improve the sample and solid phase contact, leading to faster equil., higher enrichment factor, and better reproducibility. Operating principles and device configuration make automation possible. [on SciFinder (R)] 1000-8713 in/ tube/ solid/ phase/ microextn/ capillary/ gas/ chromatog;/ pollutant/ detn/ water/ capillary/ gas/ chromatog;/ alkane/ polycyclic/ arom/ hydrocarbon/ pesticide/ detn/ water

487. Guillard, K. and Kopp, K. L. (Nitrogen Fertilizer Form and Associated Nitrate Leaching From Cool-Season Lawn Turf. *J environ qual. 2004 sep-oct; 33(5):1822-7. [Journal of environmental quality]: J Environ Qual.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Various N fertilizer sources are available for lawn turf. Few field studies, however, have determined the losses of nitrate (NO(3)-N) from lawns receiving different formulations of N fertilizers. The objectives of this study were to determine the differences in NO(3)-N leaching losses among various N fertilizer sources and to ascertain when losses were most likely to occur. The field experiment was set out in a completely random design on a turf typical of the lawns in southern New England. Treatments consisted of four fertilizer sources with fast- and slow-release N formulations: (i) ammonium nitrate (AN), (ii) polymer-coated sulfur-coated urea (PCSCU), (iii) organic product, and (iv) a nonfertilized control. The experiment was conducted across three years and fertilized to supply a total of 147 kg N ha(-1) yr(-1). Percolate was collected with zero-tension lysimeters. Flow-weighted NO(3)-N concentrations were 4.6, 0.57, 0.31, and 0.18 mg L(-1) for AN, PCSCU, organic, and the control, respectively. After correcting for control losses, average annual NO(3)-N leaching losses as a percentage of N applied were 16.8% for AN, 1.7% for PCSCU, and 0.6% for organic. Results indicate that NO(3)-N leaching losses from lawn turf in southern New England occur primarily during the late fall through the early spring. To reduce the threat of NO(3)-N leaching losses, lawn turf fertilizers should be formulated with a larger percentage of slow-release N than soluble N.
MESH HEADINGS: *Fertilizers
MESH HEADINGS: Nitrates/analysis/*chemistry
MESH HEADINGS: Nitrogen/*analysis/chemistry
MESH HEADINGS: Poaceae
MESH HEADINGS: Seasons
MESH HEADINGS: Solubility
MESH HEADINGS: Water Pollutants/analysis
LANGUAGE: eng

488. Guillard, K., Morris, T. F., and Kopp, K. L. (1999). The Pre-Sidedress Soil Nitrate Test and Nitrate Leaching From Corn. *Journal of Environmental Quality, 28 (6) pp. 1845-1852, 1999*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0047-2425
Abstract: The pre-sidedress soil nitrate test (PSNT) is recommended in many states as a best management practice (BMP) for corn (Zea mays L.). A 2-yr study was conducted in Connecticut on a Woodbridge fine sandy loam soil (coarse loamy, mixed, mesic Aquic Dystrochrept) to determine NO inferior 3-N concentrations and losses in soil water from corn managed with three different N fertilization regimes: (i) PRE, 196 kg N ha superior - superior 1 applied preplant; (ii) PSNT-1, 90 kg N ha superior - superior 1 applied at preplant and any remaining N needs estimated by the PSNT (0 kg ha superior - superior 1 in 1995 and 45 kg ha superior - superior 1 in

1996); and (iii) PSNT-2, no preplant N and all N needs estimated by the PSNT (34 kg ha superior - superior 1 in 1995 and 123 kg ha superior - superior 1 in 1996). Percolate was collected with zero-tension pan lysimeters. Flow- weighted NO inferior 3-N concentrations from the PRE treatment were 22.3 mg L superior - superior 1 in 1995 and 17.4 mg L superior - superior 1 in 1996; the PSNT treatments were less than 8.0 mg L superior - superior 1. Losses of NO inferior 3-N as a percent of N applied in 1995 were 20%, 10%, and 12% for PRE, PSNT-1, and PSNT-2, respectively, and 31%, 21%, and 21%, respectively, in 1996. Greatest leaching losses occurred after corn harvest. Corn yields were not significantly (P greater than 0.05) different among N treatments. These findings suggest that a well calibrated soil N test can reduce excess fertilization and the potential for NO inferior 3 contamination of ground water.
29 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.10.1.5 CROP SCIENCE: Crop Physiology: Fertilizer effects
Subfile: Plant Science

489. Gunderson, E. L. (1995). Dietary Intake of Pesticides, Selected Elements, and Other Chemicals: Fda Total Diet Study, June 1984-April 1986. *Journal of aoac international* 78: 910-921.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The U.S. Food and Drug Administration conducts the Total Diet Study to determine dietary intakes of selected pesticides, industrial chemicals, and elements (including radionuclides). The results reported here reflect the sampling period from June 1984 to April 1986. The study involves retail purchase of foods representative of the total diet of the U.S. population, preparation for table-ready consumption, and individual analyses of 234 items depicting the diets of 8 population groups. The diets were based on 2 nationwide food consumption surveys. The data presented represent 8 food collections (also termed "market baskets") in regional metropolitan areas during the 2-year period. Dietary intakes of over 90 analytes are presented for the 8 population groups, which range from infants to elderly adults. Intakes of selected population groups are compared with representative previous findings. As reported previously, average daily intakes are well below acceptable limits.
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: DIET
MESH HEADINGS: IATROGENIC DISEASE
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: PUBLIC HEALTH ADMINISTRATION
MESH HEADINGS: STATISTICS
MESH HEADINGS: AIR POLLUTION

MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Nutrition-Pathogenic Diets
KEYWORDS: Food Technology-General
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Food Technology-Preparation
KEYWORDS: Toxicology-Foods
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health-Public Health Administration and Statistics
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

490. Gunderson, E. L. (1995). Fda Total Diet Study, July 1986-April 1991, Dietary Intakes of Pesticides, Selected Elements, and Other Chemicals. *Journal of aoac international* 78: 1353-1363 .
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The U.S. Food and Drug Administration conducts the Total Diet Study to determine dietary intakes of selected pesticides, industrial chemicals, and elements (including radionuclides). This paper report results for the sampling period July 1986 to April 1991. The study involves retail purchase of foods representative of the "total diet" of the U.S. population, preparation for "table-ready" consumption, and individual analyses of 234 items making up the diets of 8 population groups. The diets were based on 2 nationwide food consumption surveys. The data presented represent 21 food collections (also termed "market baskets") in regional metropolitan areas during the 5-year period. Dietary intakes of nearly 120 analytes are presented for elderly adults. Intakes of selected population groups are compared with representative findings from earlier Total Diet Study sampling periods. As reported previously, average daily intakes are well below acceptable limits.
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: DIET
MESH HEADINGS: IATROGENIC DISEASE
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: PUBLIC HEALTH ADMINISTRATION
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MESH HEADINGS: AIR POLLUTION
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MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL

MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: General Biology-Institutions
KEYWORDS: Biochemical Studies-General
KEYWORDS: Nutrition-Pathogenic Diets
KEYWORDS: Toxicology-Foods
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health-Public Health Administration and Statistics
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

491. Gunderson, Ellis L (1988). FDA Total Diet Study, April 1982-April 1984, dietary intakes of pesticides, selected elements, and other chemicals. *Journal - Association of Official Analytical Chemists* 71: 1200-9.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1989:56177
Chemical Abstracts Number: CAN 110:56177
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5, 18
Document Type: Journal
Language: written in English.
Index Terms: Food contamination (by pesticides and heavy metals and industrial chems.); Pesticides (of foods and diet, human age group in relation to); Diet (pesticide and heavy metal and industrial chem. contaminants of, age group in relation to); Apple; Bakery products; Bread; Butter; Catsup; Celery; Cucumber; Dairy products; Fruit; Fruit and vegetable juices; Grape; Lettuce; Meat; Peach; Peanut butter; Pear; Plum; Prune; Raisin; Strawberry; Tomato; Vegetable (pesticides and industrial chems. of); Potato (pesticides and industrial chems. of baked and boiled and scalloped); Sweet potato (pesticides and industrial chems. of baked and candied); Broccoli; Egg; Kale; Radish; Spinach (pesticides and industrial chems. of boiled); Shrimp (pesticides and industrial chems. of breaded and fried); Senescence (pesticides and industrial chems. of diet in relation to human); Pickles (pesticides and industrial chems. of dill); Peanut (pesticides and industrial chems. of dry roasted); Milk (pesticides and industrial chems. of evapd.); Cheese (Cheddar, pesticides and industrial chems. of); Potato (French fry, pesticides and industrial chems. of); Developmental stages (adolescent, pesticides and industrial chems. of diet in human); Spinach; Tomato juice; Tomato paste, puree, and sauce (canned, pesticides and industrial chems. of); Melon (cantaloupe, pesticides and industrial chems. of); Confectionery (caramel, pesticides and industrial chems. of); Developmental stages (child, pesticides and industrial chems. of diet in human); Potato (chips, pesticides and industrial chems. of); Capsicum annuum annuum (grossum group, pesticides and industrial chems. of); Frozen desserts (ice cream, pesticides and industrial chems. of); Developmental stages (infant, pesticides and industrial chems. of diet in human); Trace elements Role: BIOL (Biological study) (metals, heavy, of foods and diet, human age group in relation to); Chocolate (milk, pesticides and industrial chems. of); Confectionery (milk chocolate, pesticides and industrial chems. of); Cheese (process, pesticides and industrial chems. of); Bread (rye, pesticides and industrial chems. of); Condiments (sauces, white, pesticides and industrial chems. of); Meat (sausage, pesticides and industrial chems. of); Canned foods (spinach, pesticides and industrial chems. of); Cucurbita (squash, pesticides and industrial chems. of boiled); Cherry (sweet, pesticides and industrial chems. of); Canned foods (tomato juice, pesticides and industrial chems. of); Canned foods (tomato paste, pesticides and industrial chems. of); Canned foods (tomato soup, pesticides and industrial chems. of); Soups (tomato, canned, pesticides and industrial chems. of);

Bean (P. limensis, pesticides and industrial chems. of boiled)
CAS Registry Numbers: 50-29-3 (p,p'-DDT); 56-38-2 (Parathion); 58-89-9; 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (p,p'-Methoxychlor); 72-54-8 (p,p'-TDE); 72-55-9 (p,p'-DDE); 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-42-2 (Tri-(2-ethylhexyl) phosphate); 78-48-8 (DEF); 78-51-3 (Tri-(2-butoxyethyl) phosphate); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 87-61-6 (1,2,3-Trichlorobenzene); 87-86-5 (Pentachlorophenol); 93-76-5 (2,4,5-T); 99-30-9 (Dicloran); 101-21-3 (Chloropropham); 115-32-2 (p,p'-Dicofol); 115-86-6 (Triphenyl phosphate); 116-06-3 (Aldicarb); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 126-73-8 (Tributyl phosphate); 126-75-0 (Demeton-S); 133-06-2 (Captan); 298-00-0 (Parathion-methyl); 298-01-1 (a-Mevinphos); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 330-55-2 (Linuron); 333-41-5 (Diazinon); 338-45-4; 510-15-6 (Chlorobenzilate); 527-20-8 (Pentachloroaniline); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6 (o,p'-DDT); 929-16-8 (2-Chloroethyl palmitate); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 1241-94-7 (Diphenyl 2-ethylhexyl phosphate); 1563-66-2 (Carbofuran); 1825-19-0 (Pentachlorophenyl methyl sulfide); 1825-21-4 (Pentachlorophenyl methyl ether); 1861-32-1 (DCPA); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 2496-91-5 (Demeton-S sulfone); 2497-06-5 (Disulfoton sulfone); 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2683-43-4; 2921-88-2 (Chlorpyrifos); 3424-82-6 (o,p'-DDE); 3481-20-7 (2,3,5,6-Tetrachloroaniline); 3734-48-3 (Chlordene); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 6936-40-9 (2,3,5,6-Tetrachloroanisole); 7439-92-1 (Lead); 7439-97-6 (Mercury); 7440-38-2 (Arsenic); 7440-43-9 (Cadmium); 7704-34-9 (Sulfur); 8001-35-2 (Toxaphene); 10265-92-6 (Methamidophos); 10606-46-9 (o,p'-Dicofol); 11097-69-1 (Aroclor 1254); 11104-28-2 (Aroclor 1221); 12408-10-5 (Tetrachlorobenzene); 12789-03-6 (Chlordane); 13171-21-6 (Phosphamidon); 15175-04-9 (2-Chloroethyl caprate); 16655-82-6 (3-Hydroxycarbofuran); 16752-77-5 (Methomyl); 20925-85-3 (Pentachlorobenzonitrile); 23135-22-0 (Oxamyl); 25525-76-2 (2-Chloroethyl linoleate); 27304-13-8 (Octachlor epoxide); 30560-19-1 (Acephate); 33213-65-9 (Endosulfan II); 39765-80-5 (trans-Nonachlor); 50471-44-8 (Vinclozolin); 51479-36-8 (2-Chloroethyl myristate); 53014-41-8; 53469-21-9 (Aroclor 1242); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 64919-15-9 (2-Chloroethyl laurate); 70439-96-2; 94483-57-5
Role: BIOL (Biological study) (of foods and diet, human age group in relation to) The U.S. Food and Drug Administration conducts the Total Diet Study to det. dietary intakes of selected pesticides, industrial chems., and elements (including radionuclides). The current study, which reflects significant redesign implemented in Apr. 1982, involves retail purchase of foods representative of the total diet of the U.S. population, prepn. for table-ready consumption, and individual analyses of 234 items depicting the diets of 8 population groups. The dietary revision was based on 2 nationwide food consumption surveys. Data represent 8 food collections (also termed market baskets) in regional metropolitan areas during the 2-yr period. Dietary intakes of over 100 analytes are presented for the 8 population groups, which range from infants to elderly adults. Intakes of selected population groups are compared with representative previous findings. Av. daily intakes are within acceptable limits. [on SciFinder (R)] 0004-5756 diet/ food/ pesticide/ industrial/ chem;/ age/ diet/ pesticide/ industrial/ chem;/ heavy/ metal/ food/ diet

492. Gunier, Robert B., Harnly, Martha E., Reynolds, Peggy, Hertz, Andrew, and Von Behren, Julie (2001). Agricultural pesticide use in California: pesticide prioritization, use densities, and population distributions for a childhood cancer study. *Environmental Health Perspectives* 109: 1071-1078.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 2001:835090
Chemical Abstracts Number: CAN 136:236031
Section Code: 59-2

Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Toxicity (agricultural pesticide; geog. agricultural pesticide use, pesticide prioritization, use d., and population distribution in relation to childhood exposure and cancer incidence in California); Pesticides (agricultural; geog. agricultural pesticide use, pesticide prioritization, use d., and population distribution in relation to childhood exposure and cancer incidence in California); Development (child, health hazard; geog. agricultural pesticide use, pesticide prioritization, use d., and population distribution in relation to childhood exposure and cancer incidence in California); Neoplasm (childhood; geog. agricultural pesticide use, pesticide prioritization, use d., and population distribution in relation to childhood exposure and cancer incidence in California); Environmental pollution; Health hazard (geog. agricultural pesticide use, pesticide prioritization, use d., and population distribution in relation to childhood exposure and cancer incidence in California)
CAS Registry Numbers: 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 74-83-9 (Methyl bromide); 76-06-2 (Chlorpicrin); 78-48-8; 94-75-7 (2,4-D); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-34-9 (Simazine); 133-06-2 (Captan); 137-30-4 (Ziram); 137-42-8 (Metam sodium); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 759-94-4; 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1861-32-1 (Chlorthal-dimethyl); 1897-45-6 (Chlorothalonil); 1910-42-5 (Paraquat dichloride); 2212-67-1 (Molinate); 2312-35-8 (Propargite); 2921-88-2 (Chlorpyrifos); 7786-34-7 (Mevinphos); 8018-01-7 (Mancozeb); 12427-38-2 (Maneb); 19044-88-3 (Oryzalin); 21725-46-2 (Cyanazine); 27314-13-2 (Norflurazon); 30560-19-1 (Acephate); 36734-19-7 (Iprodione); 39148-24-8 (Fosetyl-al); 40487-42-1 (Pendimethalin); 42874-03-3 (Oxyfluorfen); 51218-45-2 (Metolachlor); 52645-53-1 (Permethrin) Role: ADV (Adverse effect, including toxicity), OCU (Occurrence, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (geog. agricultural pesticide use, pesticide prioritization, use d., and population distribution in relation to childhood exposure and cancer incidence in California)
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Citations: 2) Zahm, S; Environ Health Perspect 1998, 106(suppl 3), 893
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Citations: 8) Aspelin, A; Pesticides industry sales and usage:1992 and 1993 market estimates 733-K-94-001 1994
Citations: 9) California Department Of Pesticide Regulation; http://www.cdpr.ca.gov/docs/pur/purmain.htm 2001
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Citations: 16) California Department Of Pesticide Regulation; Medical Toxicology Branch Summaries of Toxicology Data 1997
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Citations: 36) Fenske, R; Environ Health Perspect 2000, 108, 515
Citations: 37) Barnard, C; Sci Total Environ 1997, 203, 229
Citations: 38) Pease, W; California Policy Seminar 1996
Citations: 39) Kelley, K; Pesticides for Evaluation as Candidate Toxic Air Contaminants Sacramento 1996
Citations: 40) Cochran, R; Regul Toxicol Pharmacol 1997, 25(2), 146
Citations: 41) Rall, D; Environ Health Perspect 1995, 103(suppl 6), 173
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Citations: 44) van Den Berg, F; Atmos Environ 1993, 27A(1), 63
Citations: 45) Axelson, O; Occupational Medicine, 3rd ed 1994, 764
Citations: 46) Kukull, W; Am J Epidemiol 1995, 141, 1059
Citations: 47) Reynolds, P; Am J Epidemiol 2000, 151(1), S-80 Several studies suggested an assocn. between childhood cancer and pesticide exposure. California leads the nation in agricultural pesticide use. A mandatory reporting system for all agricultural pesticide use in the state provides information on the active ingredient, amt. used, and location. Pesticide use d. was calcd. to quantify agricultural pesticide use in California block groups for a childhood cancer study. Pesticides with similar toxicol. properties (probable and possible carcinogens, genotoxic compds., developmental or reproductive toxicants) were grouped together. To prioritize pesticides, pesticide use was weighted by the carcinogenic and exposure potential of each compd. Top ranking individual pesticides were propargite, Me bromide, and trifluralin. A geog. information system calcd. pesticide use d. in pounds/mi2 of total land area for all United States census-block groups in the state. Most block groups (77%) averaged <1 lb/mi2 of use for 1991-1994 for pesticides classified as probable human carcinogens; however, at the high end of use d. (>90th percentile), there were 493 block groups with >569 lb/mi2. Approx. 170,000 children under 15 yr of age were living in these block groups in 1990. The distribution of agricultural pesticide use and no. of potentially exposed children suggested pesticide use d. would be of value for a study of childhood cancer. [on SciFinder (R)] 0091-6765 environmental/ pollution/ agricultural/ pesticide/ California;/ health/ hazard/ child/ agricultural/ pesticide/ exposure/ California

493. Gunther, F. A. and Gunther, J. D. (Residues of Pesticides and Other Contaminants in the Total Environment. *Residue rev. 67: 1-132 1977 (110 references).*
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

ABSTRACT: PESTAB. The reentry problem pertains to illness (no confirmed fatalities to date) among agricultural workers entering a treated area following pesticide application. The problem is limited to cholinesterase-inhibiting pesticides at present. Residue levels of these pesticides on soil, fruit, and foliage are affected by formulation, method of application, humidity, rain, temperature, dust levels, and other factors. Methods of lowering residue amounts are being investigated. Washing trees with water may be a useful procedure. Studies on the physical and chemical aspects of reentry in citrus groves have been fairly thorough, but research is continuing on the role of soil types (especially clay contents) in modifying organophosphate residues. Physiologically active residues are transferred to agricultural workers primarily via dislodgable foliar residues and soil surface "dust" residues. Both parent compound (P=S) and oxon (P=O) residues are readily reduced in the presence of water. In commercial citriculture long-lived dislodgable organophosphate residues are exceptional. The role of clays in increasing longevity of available residues is so great that some groves may be considered potentially reentry hazardous based on soil type alone. A protocol is suggested for acquiring the necessary chemical, biological, and physical data for reentry evaluation.

494. Guo, Jian-Xin, Wu, Jay J. Q., Wright, Jeffery B., and Lushington, Gerald H (2006). Mechanistic Insight into Acetylcholinesterase Inhibition and Acute Toxicity of Organophosphorus Compounds: A Molecular Modeling Study. *Chemical Research in Toxicology* 19: 209-216.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

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Database: CAPLUS
Accession Number: AN 2006:35556
Chemical Abstracts Number: CAN 144:165600
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Aging; Molecular modeling; Phosphorylation; Toxicity; Toxicokinetics (mechanistic insight into acetylcholinesterase inhibition and acute toxicity of organophosphorus compds.-mol. modeling study); Structure-activity relationship (median LD; mechanistic insight into acetylcholinesterase inhibition and acute toxicity of organophosphorus compds.-mol. modeling study); Surface area (mol.; mechanistic insight into acetylcholinesterase inhibition and acute toxicity of organophosphorus compds.-mol. modeling study); Pesticides (organophosphorus; mechanistic insight into acetylcholinesterase inhibition and acute toxicity of organophosphorus compds.-mol. modeling study)
CAS Registry Numbers: 52-68-6; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton methyl); 333-41-5; 563-12-2 (Ethion); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 2921-88-2 (Chloropyrifos); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 5598-13-0 (Methyl Chlorpyrifos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprop); 22224-92-6 (Fenamiphos); 22248-79-9; 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 35400-43-2 (Sulprofos); 41198-08-7 (Profenofos); 54593-83-8 (Chlorethoxyfos); 96182-53-5 (Tebupirimphos) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (mechanistic insight into acetylcholinesterase inhibition and acute toxicity of organophosphorus compds.-mol. modeling study); 9000-81-1 (Acetylcholinesterase) Role: BSU (Biological study, unclassified), BIOL (Biological study) (mechanistic insight into acetylcholinesterase inhibition and acute toxicity of organophosphorus compds.-mol. modeling study)
Citations: 1) Flanagan, J; Antidotes 2001, 87
Citations: 2) Ehrich, M; Encyclopedia of Toxicology 1998, 467
Citations: 3) Sidell, F; Ann Emerg Med 1992, 21, 865
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Citations: 41) Fukuto, T; Pure Appl Chem 1978, 50, 9
Citations: 42) Beike, J; J Anal Toxicol 2002, 25, 308
Citations: 43) Gotoh, M; Forensic Sci Int 2001, 116, 221
Citations: 44) Abu-Oare, A; J Chromatogr, B: Biomed Sci Appl 2001, 757, 295
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Citations: 46) Kappers, W; Toxicol Appl Pharmacol 2001, 177, 68
Citations: 47) Sultatos, L; Toxicology 1991, 68, 1
Citations: 48) Cabras, P; J Chromatogr 1991, 540, 406
Citations: 49) Bakke, J; J Environ Sci Health, Part B 1976, 11, 9
Citations: 50) Abu-Qare, A; Toxicology 2000, 150, 119
Citations: 51) Soranno, T; Toxicol Lett 1992, 60, 27
Citations: 52) Berealey, C; J Chromatogr 1979, 168, 461
Citations: 53) Gorder, G; J Agric Food Chem 1986, 34, 941 Acute toxicity of organophosphorus (OP) compds. results mainly from irreversible acetylcholinesterase (AChE) inhibition; however OP toxicity frequently hinges on prior biotransformations that produce toxic metabolites. To account for both precursor metabolic effects and primary AChE inhibition, the authors included absorption, distribution, metab., excretion (ADME) effects, ligand binding, and reactive AChE phosphorylation and aging in a detailed but computationally expedient phenomenol. toxicity model. Ligand neg. accessible surface area (NASA) was used as a generic ADME descriptor, while relevant metabolic, phosphorylation, and aging reactions were assessed via quantum chem. enthalpy calcns., and the binding affinity of the Michaelis complex was quantified via Comparative Mol. Field Anal. (CoMFA). The resulting model correlates very well (R2 = 0.90) with exptl. acute toxicity measurements and provides useful mechanistic insight into the

underlying toxicity. Model predictivity was validated by leave-one-out cross-validation (Q2 = 0.82). The Michaelis binding affinity descriptor has the largest wt. in our model, but subsequent covalent inhibition and prior ADME effects also exhibit significant effects. [on SciFinder (R)] 0893-228X acetylcholinesterase/ toxicity/ organophosphorus/ pesticide/ mol/ modeling

495. Guo, M. (Groundwater Quality Under the Influence of Spent Mushroom Substrate Weathering. *J environ monit. 2005, oct; 7(10):1007-12. [Journal of environmental monitoring : jem]: J Environ Monit.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Nitrate and other solutes resulting from field-weathering of spent mushroom substrate (SMS) percolate into underlying soils and may migrate to groundwater. A field trial was conducted to investigate the potential influences of SMS weathering on groundwater quality. Spent mushroom substrate was deposited at 90 and 150 cm pile depths over a Typic Hapludult and weathered for 2 years. Eight casing wells were installed around the SMS piles to monitor the quality changes of groundwater with a high seasonal water table of 760 cm below the surface. Although leachate solutes had moved more than 200 cm deep in soil from the surface, no significant changes of groundwater quality caused by SMS weathering were observed even one year after removal of the SMS piles (3 years total). The groundwater had pH, electrical conductivity (EC) and dissolved organic carbon (DOC) of 4.3-5.7, 0.2-0.3 dS m(-1) and 0.7-2.2 mg L(-1), respectively. The major inorganic ions were Mg(2+), Ca(2+), Na(+), Cl(-), SO(4)(2-) and NO(3)(-), with a concentration range of 2.5-68.3 mg L(-1). The results suggest that SMS leachate solutes migrated fairly slow in deep subsurface soils of the experimental field. Considering that leachate solutes may move several meters in soil through preferential flow channels, weathering of SMS in fields with a high seasonal groundwater table >or=5 m below the ground is recommended. Conservatively, SMS weathering should be conducted on compact surfaces and leachate be collected and reused as liquid fertilizers.
MESH HEADINGS: Agaricales/*chemistry/growth &amp
MESH HEADINGS: development
MESH HEADINGS: *Agriculture
MESH HEADINGS: Anions/analysis
MESH HEADINGS: Carbon/analysis
MESH HEADINGS: Cations/analysis
MESH HEADINGS: Electric Conductivity
MESH HEADINGS: Fresh Water/*chemistry
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Water Movements
MESH HEADINGS: Water Pollutants, Chemical/*analysis
MESH HEADINGS: Water Supply
LANGUAGE: eng

496. Guo, M. and Chorover, J. (Leachate Migration From Spent Mushroom Substrate Through Intact and Repacked Subsurface Soil Columns. *Waste manag. 2006; 26(2):133-40. [Waste management (new york, n.y.)]: Waste Manag.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Field weathering of spent mushroom substrate (SMS) produces soluble compost leachate that percolates into underlying soils and may adversely impact groundwater. Laboratory experiments were conducted to investigate movement and retention of SMS leachate solutes in subsurface soil columns. Spent mushroom substrate leachate with high concentrations of dissolved organic matter (DOM) and inorganic salts was passively loaded to intact and repacked columns of Bt1 soil (fine-loamy, mixed, semiactive, mesic Typic Hapludults) and effluents were monitored for changes in chemical composition. Transport of SMS leachate in undisturbed soil cores was mainly via preferential flow, whereas matrix flow was predominant in repacked soil columns. Leachate DOM and phosphate were sorbed by soil minerals while Cl-, SO4(2-), Na+ and NH4+ were eluted. Leachate K+ displaced exchangeable native cations and was retained. Biodegradation of leachate DOM resulted in reduction and elution of soil Mn and Fe, especially in repacked

columns. Persistent anoxia also inhibited nitrification. Precipitation of gypsum and CaCO3 blocked preferential flow channels, and movement of SMS leachate was subsequently reduced. The results demonstrate that SMS leachate migrates via rapid preferential flow initially, followed by matrix flow at a lower rate. Leachate solutes may transport to depth in soil profiles through preferential channels. To protect water resources, weathering of deep SMS piles should be conducted on compact surfaces or in fields with a condensed soil layer (no structural cracks) above the groundwater table, and measures controlling leachate runoff be imposed.
MESH HEADINGS: Adsorption
MESH HEADINGS: *Agaricales
MESH HEADINGS: Soil Pollutants
MESH HEADINGS: *Waste Products
MESH HEADINGS: *Water Movements
MESH HEADINGS: Water Pollutants, Chemical
LANGUAGE: eng

497. Guo, M., Chorover, J., Rosario, R., and Fox, R. H. (Leachate Chemistry of Field-Weathered Spent Mushroom Substrate. *J environ qual. 2001 sep-oct; 30(5):1699-709. [Journal of environmental quality]: J Environ Qual.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Passive leaching by rainfall and snowmelt is a popular method to treat piles of spent mushroom substrate (SMS) before its reuse. During this field weathering process, leachate percolates into the underlying soils. A field study was conducted to examine the chemistry of SMS leachate and effects of infiltration. Two SMS piles were deposited (90 and 150 cm in height) over a Typic Hapludult and weathered for 24 mo. Leachate was collected biweekly using passive capillary samplers. The SMS leachate contained high concentrations of dissolved organic carbon (DOC; 0.8-11.0 g L(-1)), dissolved organic nitrogen (DON; 0.1-2 g L(-1)), and inorganic salts. The pH, electrical conductivity, and acid neutralizing capacity were 6.6 to 9.0, 21 to 66 ds m(-1), and 10 to 75 mmolc L(-1), respectively. Inorganic chemistry of the leachate was dominated by K+, Cl-, and SO24-. Leachate DOC was predominantly low molecular weight (< 1000 Da) organic acids. During 2 yr of weathering, the 90-cm SMS pile released (per cubic meter of SMS) 3.0 kg of DOC, 1.6 kg of dissolved N, and 26.6 kg of inorganic salts. The 150-cm pile released (per cubic meter of SMS) 2.8 kg of DOC, 0.7 kg of dissolved N, and 13.6 kg of inorganic salts. The 150 cm pile retained more water and exhibited lower net nitrification compared with the 90-cm pile. The top 90 cm of soil retained 20 to 89% of the leachate solutes. Weathering of SMS in piles of 90 cm depth or greater may adversely affect ground water quality.
MESH HEADINGS: Agaricales/*metabolism
MESH HEADINGS: Agriculture
MESH HEADINGS: Climate
MESH HEADINGS: Environmental Monitoring
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Nitrogen/chemistry/*metabolism
MESH HEADINGS: Rain
MESH HEADINGS: Refuse Disposal/*methods
MESH HEADINGS: Snow
MESH HEADINGS: Soil Pollutants/*analysis
MESH HEADINGS: Solubility
MESH HEADINGS: Water Pollutants/*analysis
LANGUAGE: eng

498. Gutenmann, W. H., Bache, C. A., and Lisk, D. J (1965). Determination of Imidan and Imidoxon in crops by preparative thin layer and by gas chromatography. *Journal of Gas Chromatography* 3: 350-2.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS

Accession Number: AN 1966:22440
Chemical Abstracts Number: CAN 64:22440
Section Code: 70
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Alfalfa; Apples; Grapes; Potatoes; Tissue, plant (anal. of, for Imidan and Imidoxon)
CAS Registry Numbers: 732-11-6 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with N-(mercaptomethyl)phthalimide); 3735-33-9 (Phosphorothioic acid, O,O-dimethyl ester, S-ester with N-(mercaptomethyl)phthalimide) (detn. in plants) Imidan alone is detd. by blending 25 g. of crop sample with 75 mL. acetone, filtering, and rinsing to a final vol. of 100 mL. The filtrate is extd. with 100, 25, and 25 mL. portions of benzene and the benzene evapd. to 2-5 mL. Then 2 ml. are injected into a gas-chromatog. column contg. 5% FFAP (Wilkens Instr.) on 90/100 acid and base washed, silanized Chromosorb W. The column, flash heater, and detector are at 200, 250, and 240 Deg, resp., the carrier gas is N at 60 cc./min., and Imidan retention time is 20 min. Recovery of Imidan from alfalfa, apples, and grapes is .apprx.70%, and the sensitivity is .apprx.0.1 ppm. Imidan and Imidoxon are sepd. by extg. 25 g. of crop sample with acetone, extg. into benzene, evapg. the benzene to 5 mL., and applying this dropwise 30 mm. from one end of a 8 * 8 in. thin-layer plate contg. 0.044-in.-thick silica gel G with CaSO4 binder. The plate is developed using 10% MeOH in benzene and removed when the solvent front is 100 mm. above the sample line. The Rf values detd. for Imidan and Imidoxon are 0.68 and 0.46, resp. The compds. are located using Br vapor for 2 min., spraying with fluorescein, and examg. under 253.7 mm uv light. The strips are scraped off, stirred 1 h. in 25 mL. acetone, filtered, and evapd. The residue is redissolved in 2-5 mL. benzene, then chromatographed. Recoveries of 1 ppm. each of Imidan and Imidoxon, resp., are 72 and 86% for apples, 70 and 58% for grapes, and 78 and 30% for potatoes. The procedure is sensitive to .apprx.0.1 ppm. Imidan and .apprx.0.2 ppm. Imidoxon. Phaltan, phthalimide, N-hydroxy-methylphthalimide, and phthalic acid interfere. [on SciFinder (R)] 0096-2686

499. Guyonnet, D., Didier-Guelorget, B., Provost, G., and Feuillet, C. (1998). Accounting for Water Storage Effects in Landfill Leachate Modelling. *Waste management & research* 16: 285-295.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, MODELING.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The water balance method is a widespread approach for estimating the volumes of leachate that a landfill is likely to produce. Yet, this method does not always adequately reproduce observed patterns of landfill leachate production. This paper proposes a modified approach that tries to account for the hydrologic behaviour of the waste in a manner which is believed to be consistent with field measurements. The conceptual model considers that a certain proportion of infiltration into the waste percolates rapidly through preferential pathways, while the remaining infiltration is absorbed by the waste and released following a first-order kinetic relationship. A comparison between the proposed model and leachate volumes measured daily at two municipal solid waste landfills in France over a period of up to nine months suggests that the proposed approach is capable of reproducing observed behaviour. Moreover, the values attributed to the fitting parameters in order to obtain a
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: CYBERNETICS
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
KEYWORDS: Mathematical Biology and Statistical Methods

KEYWORDS: Biophysics-Biocybernetics (1972-)
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
LANGUAGE: eng

500. Gyoutoku, Y., Murai, K., Miyata, T., and Isoda, T. (The Resistance of the Citrus Leafminer, Phyllocnistis Citrella Stainton, to Insecticides and a Laboratory Bioassay Method. *Japanese journal of applied entomology and zoology; 40 (3). 1996. 238-241.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

Ab - biosis copyright: biol abs. The susceptibility of two populations of the citrus leafminer, phyllocnistis citrella, collected from matsubase in kumamoto prefecture and naruto in tokushima prefecture, to several insecticides was determined by field tests and laboratory bioassay. Citrus leaves infested with 1st and 2nd instar larvae were dipped into insecticide solutions and kept in petri dishs containing wet filter paper at 25ę c. The mortalities were determined 48 h. The matsubasc population was resistant to fenvalerate (lc50 = 30.1 Ppm) and permethrin (lc50 = 5.27 Ppm), but the naruto population was susceptible. The susceptibility to phosmet was low in the matsubase (lc50 = 3,212 ppm) and naruto populations (lc50 = 150 ppm). These results are consistent with the trend found in field tests with insecticides to control p. Citrella.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: NECROSIS/PATHOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: LEPIDOPTERA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Pathology
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Invertebrata
KEYWORDS: Lepidoptera
LANGUAGE: jpn

501. Ha, S. R., Dung, P. A., and Lee, B. H. (Impacts of Agrochemical Fertilizer on the Aquatic Environment of Paddy Fields in Vietnam. *Water sci technol. 2001; 43(5):193-202. [Water science and technology : a journal of the international association on water pollution research]: Water Sci Technol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ABSTRACT: To evaluate the impacts of agrochemical fertilizer application on the aquatic environment of paddy fields in tropical regions, 7.04 ha of paddy field situated in northern Vietnam were selected as a study area. The fate of nutrient constituents was surveyed through a questionnaire as well as analytical observation. Taking the major environmental components of the paddy field into account, a mass-balance flow regarding fertilizing constituents such as nitrogen and phosphate was built up and used to estimate the contribution of fertilizer to paddy field water pollution. In the mass-flow analysis, the randomness of fertilizer used by local farmers is incorporated within the conventional input-output model. For the control volume of soil in 0-40 cm below paddy plot surface, the estimated average concentrations in soil were 1.8 ppm for inorganic nitrogen and 1.3 ppm for inorganic phosphate on the assumption of 50% non-excessive probability. From the reasonable consistency of the deduced concentrations of nutrients with observed ones, not only the mass balance of fertilizing substances but also the impacts of fertilizer on the paddy field aquatic environment in Vietnam could be understood. On the results from

nutrient mass-balance analysis, it was found that 11.3-13.3 kg N/ha would percolate into the underground aquifer that is linked to surface channel flow in the vicinity of the paddy plots and affect the irrigation water quality. The nutrient portion in the materials harvested as grain and straw occupied 58% of total dosed nitrogen and 75.6% of total supplied phosphorous.
MESH HEADINGS: *Agriculture
MESH HEADINGS: Environmental Monitoring
MESH HEADINGS: *Fertilizers
MESH HEADINGS: Nitrogen/analysis
MESH HEADINGS: Oryza sativa
MESH HEADINGS: Phosphorus/analysis
MESH HEADINGS: Water Movements
MESH HEADINGS: Water Pollution/*analysis
LANGUAGE: eng

502. Hall, Franklin R (1983). Pesticide usage patterns for Ohio apple orchards. *Journal of Economic Entomology* 76: 584-9.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1983:465881
Chemical Abstracts Number: CAN 99:65881
Section Code: 5-6
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Acaricides; Fungicides and Fungistats; Insecticides; Pesticides (in apple com. cultivation, in Ohio); Apple (pesticide usage patterns for cultivation of, in Ohio)
CAS Registry Numbers: 86-50-0; 133-06-2; 732-11-6; 8064-42-4; 13121-70-5; 17804-35-2 Role: BIOL (Biological study) (in apple com. cultivation, in Ohio) Pesticide usage patterns were studied in 18 and 19 com. apple orchards in Ohio during 1979 and 1980, resp. Conventional every-row spraying was used in almost every orchard during the 2-yr period. Phosmet [732-11-6] and azinphosmethyl [86-50-0] were the predominant insecticides utilized, whereas captan [133-06-2], Dikar [8064-42-4], and benomyl [17804-35-2] were the most frequently used fungicides. Superior oil applied in early spring and cyhexatin [13121-70-5] were the most common materials for control of mites. Insecticides and fungicides were applied at nearly half the Ohio recommended full dil. rates. Av. expenditures for insecticides in 1979 were $107/ha and $115/ha in 1980. Losses from principal insect pests, redbanded leafroller (Argyrotaenia velutinana), and plum curculio (Conotrachelus nenuphar), were <2% annually. [on SciFinder (R)] 0022-0493
pesticide/ apple/ orchard/ Ohio

503. Hall, G. L., Whitehead, W. E., Mourer, C. R., and Shibamoto, T (1986). A new gas chromatographic retention index for pesticides and related compounds. *HRC & CC, Journal of High Resolution Chromatography and Chromatography Communications* 9: 266-71.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1986:548041
Chemical Abstracts Number: CAN 105:148041
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 9
Document Type: Journal
Language: written in English.
Index Terms: Amines Role: USES (Uses) (as gas chromatog. retention index ref. stds., pesticide

detn. in relation to); Pesticides (gas chromatog. of, trialkylamine retention index for); Chromatography (trialkylamine retention index for, of pesticides and related compds.) CAS Registry Numbers: 55-38-9; 56-38-2; 60-51-5; 62-73-7; 63-25-2; 78-48-8; 82-68-8; 86-50-0; 88-85-7; 95-06-7; 95-69-2; 95-76-1; 99-30-9; 101-21-3; 101-27-9; 102-69-2; 102-82-9; 102-86-3; 114-26-1; 116-29-0; 121-75-5; 122-34-9; 133-06-2; 139-40-2; 297-99-4; 298-00-0; 298-01-1; 298-02-2; 298-04-4; 299-84-3; 299-85-4; 299-86-5; 300-76-5; 311-45-5; 330-55-2; 333-41-5; 338-45-4; 485-31-4; 563-12-2; 621-77-2; 732-11-6; 759-94-4; 786-19-6; 944-22-9; 950-35-6; 950-37-8; 953-17-3; 959-98-8; 961-22-8; 1070-01-5; 1079-33-0; 1114-71-2; 1116-76-3; 1134-23-2; 1194-65-6; 1563-66-2; 1582-09-8; 1836-75-5; 1861-40-1; 1897-45-6; 1912-24-9; 1918-02-1D; 1918-16-7; 1929-77-7; 1982-47-4; 2008-41-5; 2032-59-9; 2032-65-7; 2212-67-1; 2310-17-0; 2411-36-1; 2439-01-2; 2496-92-6; 2497-06-5; 2497-07-6; 2642-71-9; 2921-88-2; 3735-33-9; 4726-14-1; 5286-73-7; 5902-51-2; 6164-98-3; 6923-22-4; 7287-19-6; 10265-92-6; 10311-84-9; 12771-68-5D; 13194-48-4; 15299-99-7; 15972-60-8; 16088-56-5; 16270-86-3; 16709-30-1; 17356-42-2; 17708-57-5; 17708-58-6; 18530-56-8; 18776-60-8; 19044-88-3; 19666-30-9; 21609-90-5; 21725-46-2; 22248-79-9; 22756-17-8; 23103-98-2; 23783-98-4; 23950-58-5; 26259-45-0; 28249-77-6; 30560-19-1; 33213-65-9; 39856-16-1; 39923-25-6 Role: PRP (Properties) (trialkylamine gas chromatog. retention index of) A new gas chromatog. (GC) retention index based on a homologous series of tri-n-alkylamines is proposed for use in the detection of pesticides and related compds. because the std. n-paraffin hydrocarbons used for the Kovats index do not show up well on the N-P detectors commonly used in pesticide anal. Using fused silica bonded phase capillary columns (DB-1 or DB5), the trialkylamine indexes of 106 selected pesticides and related compds. were measured and their relationship to the Kovats index detd. [on SciFinder (R)] 0344-7138 pesticide/ gas/ chromatog/ alkylamine/ retention/ index

504. Hall, J. K. , Mumma, R. O., and Watts, D. W. (1991). Leaching and runoff losses of herbicides in a tilled and untilled field. *Agriculture, Ecosystems & Environment* 37: 303-314.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Transport of herbicide mass by leaching and runoff was evaluated over several years. Herbicides were applied at recommended rates to conventional tillage (CT) and no-tillage (NT) planted corn (Zea mays L.) fields on Hagerstown silty clay loam (Typic Hapludalf). Pre-emergence herbicide treatments on each tillage system included simazine (6-chloro-N,N'-diethyl-1, 3,5-triazine-2,4-diamine), atrazine (6-chloro-N-ethyl-N'-(1-methylethyl)-1,3,5-triazine-2,4-diamine), cyanazine (2-[[4-chloro-6-(ethylamino)-1,3,5-triazin-2-yl]amino]-2-methylpropanenitrile) and metolachor (2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl) acetamide). Application rates (active ingredient basis) were 1.7 kg ha-1 (simazine, atrazine) and 2.2 kg ha-1 (cyanazine, metolachlor). Percent herbicide losses (1984-1988) in root zone leachates, sampled in pan lysimeters embedded 122 cm deep in the soil profile, were greater under NT than under CT corn production. The opposite was true for runoff losses of herbicides and the magnitude of loss was less for runoff than for leaching. Total percolate yield and spray date-leaching or runoff event intervals were critical factors controlling surface or subsurface herbicide "loadings" in water. Areal losses were directly related to percolate or runoff yield and inversely related to these time increments. Also, unusually dry conditions in 1988 increased the soil residence time for cyanazine, resulting in a late-season leaching pattern somewhat atypical for this low persistence herbicide. During the 5 years, average CT leaching losses calculated from herbicide concentrations and lysimeter percolate volumes, collected in several pits, ranged from less than 0.01 to 1.05% of sprayed amounts. The more persistent herbicides, atrazine and simazine, were generally at the upper level of this range. Under NT conditions, average leaching losses ranged from 0.05 to 6.16% of sprayed amounts. Cyanazine losses were equal to or greater than simazine and atrazine losses in several seasons. In general, metolachor was the least mobile herbicide. Runoff losses (3-5% slope) were greatest in 1985 and 1986 for simazine under CT (0.62 and 0.51% of the applied rate, respectively). Respective losses under NT were 0.18% and less than 0.01%.
http://www.sciencedirect.com/science/article/B6T3Y-4914T40-C7/2/157b1549f18157352994364393cdd4c5

505. Han, R. J. and Gentry, J. W. (1993). Unipolar diffusional charging of fibrous aerosols--Theory and

experiment. *Journal of Aerosol Science* 24: 211-226.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Models for the unipolar charging of fibers were developed. The theoretical models using idealized geometries--either prolate spheroids or cylinders--and considering both the free-molecular and continuum cases served as a basis for numerical simulations. Simulation results showed that the fibers can carry more charges than equal surface area spheres. In the experimental component of this study, a prototype charger was designed and constructed. The rate of charging was measured as a function of fiber length and charger parameters. It was found that the fiber collection efficiency depends both on charge numbers and the aerodynamic drag of the fiber. The fiber length classification can be achieved by electrostatic precipitation.
http://www.sciencedirect.com/science/article/B6V6B-488Y3XX-8/2/0b8bd3b4eedebfdd45406ba839f65572

506. Handley, L. L. and Ekern, P. C. (1981). Irrigation of Californiagrass With Domestic Sewage Effluent: Water and Nitrogen Budgets and Crop Productivity. *Technical Report, University of Hawaii Water Resources Research Center [TECH. REP., UNIV. HAWAII, WATER RESOUR. RES. CENT.]. no. 141, 29 pp. 1981.*
Chem Codes: Chemical of Concern: PSM Rejection Code: MIXTURE.

Descriptors: Article Subject Terms: nitrogen cycle
Descriptors: crop fields
Descriptors: irrigation
Descriptors: sewage effluents
Descriptors: productivity
Descriptors: Article Taxonomic Terms: Brachiaria mutica
Abstract: Californiagrass (paragrass) irrigated with effluent from secondarily treated domestic sewage showed excellent response as a means for disposal of large amounts of water, effective removal of nitrogen, and high production of excellent fodder. This grass, already well established in Hawaii, is used for pasture and fodder, endures flooding, and because of its allelopathic habit forms dense, easily maintained monostands. The water, nitrogen, and biomass budgets of the grass over a 17-mo period, from April 1979 through August 1980, were measured in eight large percolate-style lysimeters filled with the Lahaian series soil (Tropeptic Haplustox).
Language: English
English
Publication Type: Journal Article
Classification: D 04700 Management
Subfile: Ecology Abstracts

507. Hankin, L. and Pylypiw, H. M Jr (1991). Pesticides in Orange Juice Sold in Connecticut (Usa). *J food prot* 54: 310-311.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. There is concern that orange juice from foreign countries may contain residues of pesticides not allowed in the United States. Of 17 orange juices examined, 15 listed Brazil as the source of all or part of the juice used. Six samples contained residues. All pesticides found were allowed for use in the United States, and all residues were well below EPA allowable tolerances in oranges.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING

MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-Foods
KEYWORDS: Pest Control
LANGUAGE: eng

508. Hansen, Hans Christian Bruun, Bergen Jensen, Marina, and Magid, Jakob (1999). Phosphate sorption to matrix and fracture wall materials in a Glossaqualf. *Geoderma* 90: 243-261.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Phosphate retaining properties of macropore wall materials may influence the extent of phosphate leaching via preferential flow. Phosphate sorption to soil matrix material has been compared with sorption to fracture wall materials consisting of inner iron-oxide depleted albic coatings rimmed by reddish iron-oxide enriched quasicoatings. The latter contains 15 times as much Fe oxide, 2 times as much Al (hydr)oxide and 5-6 times as much total P than the albic material, which represent the most P-depleted material in the profile. Oxalate extractable P (Po) amounts to of the total P contents of the samples. Smectite predominates in the fracture walls and acid subsoils, but has partly transformed into hydroxy-interlayered smectite (HIS) in the upper limed soil horizons. Langmuir parameters derived from phosphate sorption isotherms show no correlation for sorption to whole soil samples and the corresponding clay fractions. The phosphate sorption capacity at a threshold equilibrium concentration of 10 [mu]M (Padst (10 [mu]M)) is measured as the content of Po plus the amount of phosphate sorbed during 7 days, and can be related to Alo+Feo: Padst (10 [mu]M)=(0.0404+/-0.0046)[middle dot](Alo+Feo)***+3.569. The Padst (10 [mu]M) values vary between 4 and 14 mmol P kg-1, lowest in the albic fracture walls and highest in the iron enriched quasi-coatings. The sorption capacity of the metal oxide free clay does not appear to correlate with smectite or HIS contents. In total, the clay fraction contributes with about 50% of the whole soil sorption capacity in agreement with 40-60% of the total soil Alo+Feo being present in the clay fraction. At a solution phosphate concentration of 10 [mu]M, the Ap horizon is found to be almost phosphate saturated whereas subsoil horizons including the fractures have phosphate saturations <=50% and, hence, can strongly sorb P. The low phosphate saturation of fracture walls indicates that they do not act as major sinks of phosphate-rich solutions from topsoil horizons, either due to kinetic constraints, or due to a flow pattern not allowing P-rich solution to percolate fractures. phosphate sorption/ macropores/ iron oxides/ pseudogley/ HIS/ smectite/ phosphate sorption capacity http://www.sciencedirect.com/science/article/B6V67-3WWRF2R-H/2/6d10fec2d41a1da8ecdb361dc4a4e7b4

509. Hanson, E. J. and Stein, A. (1999). Effects of Water Use on Chemical Characteristics of Cranberry Soils. *Journal of Plant Nutrition, 22 (3) pp. 427-434, 1999*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0190-4167
Abstract: The long-term effects of using alkaline water on the chemical properties of sand soils were simulated by treating 36 cm tall, 5 cm diameter columns of soil with water amounts equivalent to that typically applied to cranberries (Vaccinium macrocarpon Ait.) during one year (152 cm, 3 liters), two years (304 cm, 6 liters), or three years (456 cm, 9 liters). Columns received either alkaline pond water [148 mg L superior - superior 1 calcium carbonate (CaCO inferior 3) equivalent, pH 8.0], pond water acidified with sulfuric acid (H inferior 2SO inferior 4) to pH 5.0,

or no water. Water was applied to the top of the soil in 15.2 cm increments and allowed to percolate slowly through and out the bottom of the column. The same treatments were applied to an acidic soil (pH 5.6) and a neutral soil (pH 7.1). The equivalent of three years of alkaline water use raised the pH of the acidic soil to 7.5, and that of the neutral soil to pH 7.8. Acidified water did not change the pH of the acidic soil, but decreased that of the neutral soil to 6.2. Use of alkaline water increased calcium (Ca) levels from 250 mg kg superior - superior 1 to 738 mg kg superior - superior 1 in the acidic soil. Soil Ca levels were not affected by acidified water in either soil. Treatments had inconsistent effects on potassium (K) and magnesium (Mg) levels in the soils. Based on these results, high alkalinity water that has been acidified prior to use would not adversely affect the pH or Ca levels in cranberry soils over a three-year period.
13 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science
Classification: 92.4.3 WATER AND NUTRIENTS: Water Relations and Gas Exchange
Subfile: Plant Science

510. Harding, Stephen E., Day, Kathryn, Dhami, Rajesh, and Lowe, Philip M. (1997). Further observations on the size, shape and hydration of kappa-carrageenan in dilute solution. *Carbohydrate Polymers* 32: 81-87.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

This study builds on previous studies of the important commercial polysaccharide kappa ([kappa])-carrageenan by confirming, using quite different methdology, the molecular weight and the asymmetric conformation of the [kappa]-carrageenan molecule and also provides an estimate of its large capacity to imbibe water. Studies (sedimentation velocity and equilibrium analytical ultracentrifugation and viscometry) were performed on unfractionated material in a dilute solution based on a sodium phosphate/chloride buffer (pH 6.5, I = 0.10). Low-speed sedimentation equilibrium using Rayleigh interference optics and using three different methods of extrapolation procedure yields a concensus weight average molecular weight, Mw, of (300 000 +/- 40 000) g/mol; this (i) demonstrates the relation between `whole cell average' and `point weight average' molecular weight approaches and (ii) is consistent with other published values based on light scattering procedures. A single non-ideality virial coefficient was shown to be insufficient to explain the concentration dependence behaviour of the apparent weight average molecular weight, Mw,app. Sedimentation velocity yields a sedimentation coefficient, s20,w of (4.19 +/- 0.20) S and a sedimentation concentration regression coefficient, ks of (591 +/- 40) ml/g; low-shear viscometry yielded an intrinsic viscosity [[eta]]of (630 +/- 60)ml/g and a Huggins constant K[eta] of ~0.36. From these data, the hydration independent Wales/van Holde ratio (ks/[[eta]]) of ~0.9 is consistent with an extended conformation and making the crude approximation of a rigid structure, corresponds to an equivalent hydrodynamic prolate ellipsoid of aspect ratio ~15:1. These data also yield a frictional ratio f/fo of ~7.6 which is consistent with a large hydration (~50 g water per g of dry polysaccharide, corresponding to a molecular expansion of ~100x), consistent with one of [kappa]-carrageenans key functional properties in foods as a high water binder. No further comment is made about the order-disorder transition claimed for these molecules.
http://www.sciencedirect.com/science/article/B6TFD-3S9RD12-B/2/71b26e840c328bca0b9762f1f38d6bd5

511. Hardman, J. M., Rogers, R. E. L., Nyrop, J. P., and Frisch, T. (1991). Effect of Pesticide Applications on Abundance of European Red Mite (Acari: Tetranychidae) and Typhlodromus pyri (Acari: Phytoseiidae) in Nova Scotian Apple Orchards. *J.Econ.Entomol.* 84: 570-580 .
Chem Codes: EcoReference No.: 90460
Chemical of Concern:
CAP,ACP,AZ,CBL,CYP,DM,DMT,MLN,PHSL,PSM,DCF,BMY,Captan,MZB,MEM,THM,Zine

b Rejection Code: REVIEW.

512. Hardman, John M., Franklin, Jeffrey L., Jensen, Klaus I. N., and Moreau, Debra L (2006). Effects of pesticides on mite predators (Acari: Phytoseiidae) and colonization of apple trees by Tetranychus urticae. *Phytoparasitica* 34: 449-462.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:1244985
Chemical Abstracts Number: CAN 146:76532
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Fungicides (action mechanism; pesticides effect on mite predators and colonization of apple trees by Tetranychus urticae); Acaricides; Amblyseius fallacis; Bacillus thuringiensis kurstaki; Fungicides; Insecticides; Malus pumila; Pesticides; Tetranychus urticae; Typhlodromus pyri (pesticides effect on mite predators and colonization of apple trees by Tetranychus urticae); Petroleum Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pesticides effect on mite predators and colonization of apple trees by Tetranychus urticae); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; pesticides effect on mite predators and colonization of apple trees by Tetranychus urticae)
CAS Registry Numbers: 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 115-29-7 (Endosulfan); 121-75-5 (Malathion); 133-06-2 (Captan); 732-11-6 (Phosmet); 2310-17-0 (Phosalone); 8018-01-7 (Mancozeb); 9006-42-2 (Metiram); 12122-67-7 (Zineb); 17804-35-2 (Benomyl); 23103-98-2 (Pirimicarb); 52315-07-8 (Cypermethrin); 71751-41-2 (Abamectin); 74115-24-5 (Clofentezine); 85509-19-9 (Flusilazole); 88671-89-0 (Myclobutanil); 91465-08-6 (Cyhalothrin-l); 96489-71-3 (Pyridaben); 112410-23-8 (Tebufenozide); 138261-41-3 (Imidacloprid); 143390-89-0 (Kresoxim-methyl) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pesticides effect on mite predators and colonization of apple trees by Tetranychus urticae)
Citations: 1) Baillod, M; Rev Suisse Vitic Arboric Hortic 1985, 17, 30
Citations: 2) Bernard, M; J Econ Entomol 2004, 97, 891
Citations: 3) Bostanian, N; J Hortic Sci Biotechnol 1998, 73, 527
Citations: 4) Croft, B; Environ Entomol 1992, 21, 202
Citations: 5) Dunley, J; Exp Appl Acarol 1990, 10, 137
Citations: 6) Gerson, U; Exp Appl Acarol 1989, 6, 29
Citations: 7) Hardman, J; 135th Annual Report 1999, 62
Citations: 8) Hardman, J; Pest Manag Sci 2003, 59, 1321
Citations: 9) Hardman, J; J Econ Entomol 1990, 83, 920
Citations: 10) Hardman, J; J Econ Entomol 2005, 98, 862
Citations: 11) Hardman, J; J Econ Entomol 2000, 93, 590
Citations: 12) Hardman, J; 134th Annual Report 1998, 24
Citations: 13) Hardman, J; Environ Entomol 1997, 26, 1424
Citations: 14) Hardman, J; J Econ Entomol 1991, 84, 570
Citations: 15) Hardman, J; Environ Entomol 1995, 24, 125
Citations: 16) Hassan, S; Z Angew Entomol 1987, 103, 92
Citations: 17) Henderson, C; U S Dep Agric Circ 1943, 671
Citations: 18) Hislop, R; Prot Ecol 1981, 3, 157
Citations: 19) Johnson, D; Environ Entomol 1981, 10, 313
Citations: 20) Kreiter, S; J Econ Entomol 1998, 91, 802
Citations: 21) McMurtry, J; Annu Rev Entomol 1997, 42, 291
Citations: 22) Meyer, R; Environ Entomol 1974, 3, 333
Citations: 23) Nakashima, M; J Econ Entomol 1974, 67, 675

Citations: 24) Nyrop, J; Conservation Biological Control 1998, 307
Citations: 25) Pogoda, M; Can Entomol 2001, 133, 819
Citations: 26) Sabelis, M; Their Biology, Natural Enemies and Control 1985, 1B, 103
Citations: 27) Sas Institute; SAS/STAT User's Guide 1994, 2
Citations: 28) Snedecor, G; Statistical Methods 8th ed 1989 A 2-yr survey of mite populations and pesticide use was carried out in Nova Scotia, Canada, in apple orchards where the 2-spotted spider mite (T. urticae) was the dominant phytophagous mite. Fungicides were the only class of pesticides that affected cumulative no. of T. urticae-days per leaf in tree canopies and colonization success - the ratio of T. urticae-days to no. of immigrating T. urticae caught in sticky bands on tree trunks. In 2000, increased nos. of T. urticae-days in the tree canopy were assocd. with more frequent applications of ethylene bis-dithiocarbamate (EBDC) fungicides and with higher fungicide toxicity scores, which indicate cumulative level of suppression of the phytoseiid predator Typhlodromus pyri by all fungicide applications. Higher rates of colonization success were also assocd. with higher toxicity scores. EBDC's applied in 2000 promoted T. urticae immigration as indicated by their counts on sticky bands. In 2000 and 2001, no. of T. pyri-days in the tree canopies was decreased by more frequent EBDC applications and by higher fungicide toxicity scores. Promotion of T. urticae in tree canopies by EBDC's was attributed to their toxicity to T. pyri. Both T. pyri and another phytoseiid, Amblyseius fallacis, were found in ground cover vegetation. Hence, increased immigration from the ground cover attributed to the toxicity of EBDC's to T. pyri and, esp., to A. fallacis, which is a specialist predator of spider mites and an effective natural enemy of T. urticae. [on SciFinder (R)] 0334-2123 pesticide/ apple/ tree/ mite/ Typhlodromus/ Amblyseius

513. Harris, M. L., Bishop, C. A., Struger, J., Van, D. E. N. Heuvel Mr, Van, D. E. R. Kraak Gj, Dixon, D. G., Ripley, B., and Bogart, J. P. (1998). The Functional Integrity of Northern Leopard Frog (Rana Pipiens) and Green Frog (Rana Clamitans) Populations in Orchard Wetlands: I. Genetics, Physiology, and Biochemistry of Breeding Adults and Young-of-the-Year. *Environmental toxicology and chemistry* 17: 1338-1350.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: SURVEY.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Northern leopard frogs (Rana pipiens) and green frogs (Rana clamitans) were evaluated at eight wetland sites, four of which were within apple orchards, to determine if environmental changes associated with orchard management affected measured biological parameters. Size, age, genetic variation, condition indices, levels of circulating steroid hormones, 7-ethoxyresorufin-O-deethylase activity (EROD), and organochlorine and organophosphorus residues in breeding males sampled at pond sites in orchards were compared to the same parameters measured in breeding males from reference sites. Also, the size and physiological condition of young-of-the-year captured in orchard and reference ponds were compared. No evidence of a reduction in genetic variation was found in populations of either species at any sites, but unexpectedly high average heterozygosity values (0.191-0.282) in concert with low overall fixation indices (0.012-0.059) in adults of both species did suggest that po
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENZYMES/PHYSIOLOGY
MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: GENITALIA
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANURA
KEYWORDS: Ecology

KEYWORDS: Biochemical Studies-General
KEYWORDS: Enzymes-Physiological Studies
KEYWORDS: Reproductive System-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Pest Control
KEYWORDS: Salientia
LANGUAGE: eng

514. Hasegawa, Ryohei, Cabral, Ricardo, Hoshiya, toru, Hakoi, Kazuo, Ogiso, Tadashi, Boonyaphiphat, Pleumjit, Shirai, Tomoyuki, and Ito, Nobuyuki (1993). Carcinogenic potential of some pesticides in a medium-term multi-organ bioassay in rats. [Erratum to document cited in CA119(15):153824x]. *International Journal of Cancer* 55: 528.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:63765
Chemical Abstracts Number: CAN 120:63765
Section Code: 70-3
Section Title: Nuclear Phenomena
CA Section Cross-References: 65
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (carcinogenicity of, in organs (Erratum); Carcinogens (pesticides as, in organs (Erratum); Organ (neoplasm, from pesticides (Erratum)
CAS Registry Numbers: 55-18-5 (Diethylnitrosamine); 684-93-5 (N-Methyl-N-nitrosourea); 53609-64-6 (N-Bis(2-hydroxypropyl)nitrosamine) Role: RCT (Reactant), RACT (Reactant or reagent) (carcinogenicity of pesticides and, in organs (Erratum); 133-06-2; 133-07-3; 732-11-6; 1596-84-5; 12071-83-9 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (carcinogenicity of, in organs (Erratum) The errors were not reflected in the abstr. or the index entries. [on SciFinder (R)] 0020-7136 erratum/ pesticide/ carcinogenicity/ organ;/ pesticide/ carcinogenicity/ organ/ erratum

515. Hasfurther, V. R., Skinner, Q. D., and Turner, J. P. (Modeling of Hydrologic Conditions and Solute Movement in Processed Oil Shale Waste Embankments Under Simulated Climatic Conditions: Quarterly Report, April 1, 1987-June 30, 1987. *Govt reports announcements & index (gra&i), issue 18, 1989* .
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: TD3: The major purpose of this research is to physically model, study, and describe the redistribution and movement of water and percolates in lifts of disposed processed oil shale under simulated natural environmental conditions at a scale sufficient to predict these processes on an engineering (commercial) scale and to verify the use of developed computer models to describe these processes. Progress is described. (ERA citation 14:024126)
KEYWORDS: Oil Shales
KEYWORDS: Embankments
KEYWORDS: Hydrology
KEYWORDS: Waste Disposal

516. Hasfurther, V. R., Skinner, Q. D., Turner, J. P., and Reeves, T. L. (Modeling of Hydrologic Conditions and Solute Movement in Processed Oil Shale Waste Embankments Under Simulated Climatic Conditions. Quarterly Report, July-September 1989. *Govt reports announcements & index (gra&i), issue 10, 1991*.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: TD3: Commercial development of oil shale resources will produce vast quantities of

processed shale waste. The presence of potentially toxic trace elements, inorganic salts, and potentially toxic residual organic constitutents make the disposal of vast quantities of processed shale a potential environmental problem. To be environmentally acceptable, processed shale disposal must: result in a physically stable structure, prevent or minimize release of potentially toxic compounds, and provide an economically acceptable post-land use. Water is the common element underlying all factors important to the environmental stability of disposed solid waste. The leaching and transport of solubles by water in processed shale embankments may result in degradation of local surface and groundwater quality. The major purpose of this research is to physically model, study, and describe the redistribution and movement of water and percolates in lifts of disposed processed oil shale under simulated natural environmental
KEYWORDS: Oil Shales
KEYWORDS: Solid Wastes
KEYWORDS: Spent Shales
KEYWORDS: Environmental Transport
KEYWORDS: Mathematical Models
KEYWORDS: Toxic substances

517. Hassan, S. A. (1998). Standard Laboratory Methods to Test the Side-Effects of Pesticides (Initial and Persistent) on Trichogramma cacoeciae Marchal (Hym., Trichogrammatidae). *In: P.T.Hasekll and P.McEwen (Eds.), Ecotoxicology: Pesticides and Beneficial Organisms, Kluwer Acad.Publ., London, U.K.* 71-79.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO QUANTIFIABLE TOXICITY RESULTS.

518. Hawker, D. W. and Connell, D. W. (1986). Bioconcentration of Lipophilic Compounds by Some Aquatic organisms. *Ecotoxicol.Environ.Saf.* 11: 184-197.
Chem Codes: Chemical of Concern: PSM,EFV Rejection Code: SURVEY.

519. Hawkins, G. L., Hill, D. T., Rochester, E. W., and Wood, C. W. (1995). Evaluation of Overland Flow Treatment for Swine Lagoon Effluent. *Transactions of the ASAE [TRANS. ASAE]. Vol. 38, no. 2, pp. 397-402. 1995.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0001-2351
Descriptors: Article Subject Terms: overland flow
Descriptors: animal wastes
Descriptors: wastewater treatment
Descriptors: surface runoff
Descriptors: percolation
Descriptors: lysimeters
Descriptors: anaerobic conditions
Descriptors: groundwater pollution
Descriptors: organic wastes
Descriptors: lagoons
Descriptors: anoxic conditions
Abstract: Overland flow, on slopes of 5 and 11%, was used as a means of treating wastewater effluent from the second cell of a swine waste anaerobic lagoon system. Wastewater samples from both surface runoff and soil percolate (depths of 0.3, 0.9, and 1.5 m) were collected and analyzed for TKN-N, NH sub(4)-N, ON-N, NO sub(3)-N, pH, COD, K, EC, and TP-P. Using these data, along with the hydraulic loading rates and quantitative runoff collection, mass balances on the above parameters were calculated to determine the surface treatment of the lagoon effluent. These mass balances suggest that overland flow is an excellent treatment system for liquid lagoon effluents with mass reductions of greater than 60% for all parameters on both slopes, except NO sub(3)-N, which had an approximate increase of 1.7 times on the 11% slope. Samples collected from the three lysimeter depths (soil percolate) suggest that NO sub(3)-N leaching from the plots may be a concern over an extended period of use. The runoff from overland flow systems of this

type will require further treatment.
Language: English
English
Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: SW 3040 Wastewater treatment processes
Classification: Q5 01503 Characteristics, behavior and fate
Classification: P 3000 SEWAGE & WASTEWATER TREATMENT
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

520. Hazen, Russell A., Perkins, L. Brian, Bushway, Rodney J., and Bushway, Alfred A (2004). Evaluation of water washes for the removal of organophosphorus pesticides from maine wild blueberries. *Advances in Experimental Medicine and Biology* 542: 309-315.
Chem Codes: Chemical of Concern: PSM Rejection Code: METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:440826
Chemical Abstracts Number: CAN 142:112714
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Blueberry; Food processing (evaluation of water washes for removal of organophosphorus pesticides from maine wild blueberries); Food contamination (evaluation of water washes for removal of organophosphorus pesticides from maine wild blueberries in relation to); Pesticides (organophosphorus; evaluation of water washes for removal of organophosphorus pesticides from maine wild blueberries); Washing (rinsing; evaluation of water washes for removal of organophosphorus pesticides from maine wild blueberries)
CAS Registry Numbers: 7732-18-5 (Water); 7782-50-5 (Chlorine) Role: FFD (Food or feed use), BIOL (Biological study), USES (Uses) (evaluation of water washes for removal of organophosphorus pesticides from maine wild blueberries); 86-50-0 (Azinphos Methyl); 121-75-5 (Malathion); 333-41-5 (Diazinon); 732-11-6 (Phosmet) Role: POL (Pollutant), OCCU (Occurrence) (evaluation of water washes for removal of organophosphorus pesticides from maine wild blueberries)
Citations: Anon; Pesticide News, http://www.gn.ape.org/pesticidestrust/artacts/organoph.htm 1999, 34
Citations: Anon; Agrow 1994, 199
Citations: National Academy of Sciences; Pesticides in the Diets of Infants and Children 1993
Citations: Anon; Federal Register, 6(149)
Citations: Environmental Protection Agency Office of Pesticide Programs; http://www.epa.gov/pesticides/op/chlorphrifos/consumerqs.htm 2000
Citations: Bushway, R; Analysis of Blueberries for Pesticide Residues, Unpublished data 1999
Citations: Camire, A; Food Safety News 1994
Citations: Bushway, R; J Food Protec 1998, 61(6), 708
Citations: Krohl, W; J Agric Food Chem 2000, 48, 4666
Citations: Ong, K; Food Chem 1996, 55(2), 153
Citations: Frederick, P; Health and Envir Digest 1997
Citations: Tehobanoglous, G; Water Engineering 3rd ed 1991, 501
Citations: Beuchat, L; Food Safety Unit, World Health Organization, Food safety issues 1998, WHO/FSF/FOS/98.2
Citations: Hazen, R; Small Fruits Review 2001, 1, 47
Citations: Hazen, R; Thesis, Department of Food Science and Human Nutrition, University of Maine 2000
Citations: Zhang, Q; J Agric Food Chem 1999, 47, 1760 The effectiveness of distd. water and

water contg. 100 and 200 ppm active chlorine washes on the removal of organophosphate pesticides, such as phosmet, azinphos-Me, malathion and diazinon, from blueberry fruit was investigated. All of the washing processes resulted in a significant redn. in residual levels for all 4 insecticides tested. Distd. water rinses averaged a redn. of 29.66%. Washes were more effective on samples receiving near tolerance levels of the 4 insecticides examd. The addn. of chlorine to the wash water at 100 and 200 ppm concns. each resulted in an addnl. mean redn. of 15% for all of these 4 insecticides. [on SciFinder (R)] 0065-2598 organophosphate/ pesticide/ water/ washing/ chlorine/ blueberry

521. Hazlett, P. W., English, M. C., and Foster, N. W. (1992). Ion Enrichment of Snowmelt Water by Processes Within a Podzolic Soil. *J environ qual* 21: 102-109.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Ion concentrations in snowmelt runoff, forest-floor percolate and mineral-soil percolate collected in a tolerant hardwood forest at the Turkey Lakes Watershed, ON, were determined during the spring snowmelt of 1986. The results were examined to assess the modification of snowmelt water after contact with the forest soil. Concentrations of NO3- increased from 17 to 201 mumolc L-1 and SO42- increased from 25 to 107 mumolc L-1 as meltwater passed through the organic layers and the upper mineral-soil horizons. Mineralization of organic N and S, and desorption of SO42+ from the soil, provide sources of these ions for leaching during the snowmelt period. Iron-exchange reactions in the forest floor and upper mineral soil resulted in a decrease in H+ and an increase in Ca2+ concentrations in solution. In the steep topography of this forested basin, the altered snowmelt solutions are rapidly transported downslope towards the aquatic system by lateral flow. Processes within the fo
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Forestry and Forest Products
LANGUAGE: eng

522. Hazlett, P. W. and Foster, N. W. (1989). Sources of Acidity in Forest-Floor Percolate From a Maple-Birch Ecosystem. *Water, Air, & Soil Pollution. Vol. 46, no. 1-4, pp. 87-97. 1989.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0049-6979
Descriptors: Article Subject Terms: forests
Descriptors: sediments
Descriptors: pollution monitoring
Descriptors: acid rain
Descriptors: cations
Descriptors: sediment chemistry
Descriptors: leaching
Descriptors: percolation

Descriptors: watersheds
Descriptors: pollution sources
Descriptors: forest floor
Descriptors: Article Taxonomic Terms: Acer saccharum
Descriptors: Betula alleghaniensis
Descriptors: Article Geographic Terms: Canada, Ontario, Turkey Lakes Watershed
Abstract: Ion concentrations in water collected within a forest of sugar maple and yellow birch at the Turkey Lakes Watershed near Sault Ste. Marie, Ontario were examined from 1982 to 1984 to determine sources of acidity and the extent of cation leaching from forest-floor horizons. Volume-weighted concentrations and ion fluxes in throughfall and forest-floor percolate during the growing and dormant seasons were calculated. Hydrogen ion content of the forest-floor percolate decreased in relation to that of throughfall in the dormant season and increased in the growing season. Hydrogen ion deposition in throughfall could account for 100% of the flux of H super(+) through the forest floor in the dormant period, and 40% of the flux during the growing season. Sources of NO sub(3) super(-) and organic anions within the ecosystem and major external inputs of NO sub(3) super(-) and SO sub(4) super(2-) were critical factors that influenced cation mobility in the forest floor.
Conference: Symposium on the Acidification of Organic Waters in Kejimkujik National Park, Nova Scotia, Canada, Wolfville, N.S. (Canada), 25-27 Oct. 1988
Language: English
English
Publication Type: Journal Article
Publication Type: Conference
Environmental Regime: Freshwater
Classification: Q5 01501 General
Classification: P 2000 FRESHWATER POLLUTION
Classification: D 04801 Pollution monitoring and detection
Classification: P 0000 AIR POLLUTION
Subfile: Ecology Abstracts; Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

523. Heck, Henry d'A. (1974). Characterization of the threonine-sensitive aspartokinase-homoserine dehydrogenase of Escherichia coli K12 by transient electric birefringence. *Archives of Biochemistry and Biophysics* 160: 205-214.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

The rotatory diffusion constant of aspartokinase I-homoserine dehydrogenase I of Escherichia coli K12 was determined by the method of transient electric birefringence. Its value extrapolated to zero concentration in water at 20[degree sign]C is 2.98+/-0.09x105 sec-1. Combination of this result with the known translational hydrodynamic properties of the protein permits the calculation of two equivalent ellipsoids of revolution: prolate, axial ratio, 2.5+/-0.4, and effective volume, 1.17+/-0.08x106 A3; and oblate, axial ratio, 0.05+/-0.045, and effective volume, 0.26+/-0.24x106 A3. The probable structure and symmetry of this tetrameric allosteric protein is discussed in regard to these data and to other available information. Other properties of the ellipsoidal models are predicted, including the hydrodynamic radii of gyration, excluded volumes, limiting viscosity number, and harmonic mean relaxation times. The second virial coefficient is calculated, assuming that it arises entirely from excluded volume effects. The result obtained is in excellent agreement with experimental values determined in moderate salt solutions near neutral pH.
http://www.sciencedirect.com/science/article/B6WB5-4KBC36J-X/2/cb1ad197fd05ba16c36f694b32d06684

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Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

The interception of direct solar radiation by cactus bodies is calculated by computation of the

average of the cosine of the angle of incidence over the surface of two models: a cylindrical model with a horizontal top and a prolate or oblate ellipsoidal model. An expression is obtained for the fraction of maximum possible solar radiation intercepted by a particular surface element for fixed values of the zenith angle of the sun. This expression is averaged by numerical integration over the surface of the cactus body to yield the average cosine of angle of incidence. The resulting relationships between cosine of angle of incidence and solar zenith angle show significant differences with respect to similar relationships for flat leaves. However, if a correction is applied for attenuation of direct solar radiation by the atmosphere, differences are greatly reduced.
http://www.sciencedirect.com/science/article/B6WMD-4F1J831-77/2/e257b5fb8d2c50da8e4e5558e2f587bf

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Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:1051143
Chemical Abstracts Number: CAN 144:26268
Section Code: 59-2
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5, 61
Document Type: Journal
Language: written in English.
Index Terms: Air pollution; Glaciers; Pesticides (airborne pesticide deposition in arctic Norway)
CAS Registry Numbers: 58-89-9 (g Hch); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 86-50-0 (Guthion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl parathion); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 319-84-6 (a Hch); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Imidan); 944-22-9 (Fonofos); 959-98-8 (a Endosulfan); 1024-57-3 (Heptachlor epoxide); 1861-32-1 (Dacthal); 2921-88-2 (Chlorpyrifos); 6190-65-4 (Desethyl atrazine); 7421-93-4 (Endrin aldehyde); 13071-79-9 (Terbufos); 15972-60-8 (ALACHLOR); 33213-65-9 (b Endosulfan); 40487-42-1 (Pendimethalin); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 76674-21-0 (Flutriafol) Role: POL (Pollutant), OCCU (Occurrence) (airborne pesticide deposition in arctic Norway)
Citations: 1) Franz, T; Atmospheric Deposition of Contaminants to the Great Lakes and Coastal Waters 1997, 73
Citations: 2) Li, Y; Sci Total Environ 2005, 342, 87
Citations: 3) Oehme, M; Sci Total Environ 1995, 160/161, 139
Citations: 4) Chernyak, S; Mar Pollut Bull 1996, 32, 410
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Citations: 9) Berg, T; Arctic Antarctic Alp Res 2004, 36, 284
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Citations: 31) Petit, V; Toxicol Environ Chem 1997, 58, 1
Citations: 32) Li, Y; Sci Total Environ 2004, 324, 115
Citations: 33) Krawczyk, W; Polish Polar Res 2005, 26, 65
Citations: 34) Duncan, B; J Geophys Res, doi:10.1029/2003JD004079 2004, 109, D08301
Citations: 35) Beine, H; Chemosphere:Global Change Sci 1999, 1, 145
Citations: 36) Klonecki, A; J Geophys Res, doi:10.1029/2002JD002199 2003, 108(D4), 8367
Citations: 37) Rockmann, T; Tellus 1997, 49B, 455
Citations: 38) Krol, M; J Geophys Res 1998, 103(D9), 10697
Citations: 39) Bekki, S; Nature 1994, 371, 595
Citations: 40) Spivakovsky, C; J Geophys Res 1990, 95(D11), 18441
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Citations: 42) Grannas, A; Atmos Environ 2002, 36, 2733
Citations: 43) Pfister, L; J Geophys Res, doi:10.1029/2001JD001067 2003, 108(D5), 8314
Citations: 44) Solberg, S; J Atmos Chem 1996, 23, 301
Citations: 45) Eckhardt, S; Atmos Chem Phys 2003, 3, 1769
Citations: 46) Li, Y; Northern Contaminants Program Results Workshop 2004
Citations: 47) Draxler, R; Austr Met Magn 1998, 47, 295 The Svalbard archipelago in arctic Norway receives considerable semivolatile org. contaminant (SOC) inputs from the atm. To measure the history of net SOC accumulation there, we analyzed the upper 40 m of an ice core from Austfonna, the largest ice cap in Eurasia, for several legacy organochlorine (OC) compds. and current-use pesticides (CUPs) including organophosphorus (OP), triazine, dinitroaniline, and chloroacetamide compds. Five OP compds. (chlorpyrifos, terbufos, diazinon, methyl parathion, and fenitrothion), two OCs (methoxychlor and dieldrin), and metolachlor-an herbicide-had historical profiles in the core. The highest OC concn. obsd. was aldrin (69.0 ng L-1) in the surface sample (1992-1998). The most concd. OP was dimethoate (87.0 ng L-1) between 1986 and 1992. The surface sample also had highest concns. of pendimethalin (herbicide, 18.6 ng L-1) and flutriafol, the lone obsd. fungicide (9.6 ng L-1). The apparent atm. persistence of CUPs likely results from little or no oxidn. by OH.bul. during the dark polar winter and in spring. Long-range atm. pesticide transport to Svalbard from Eurasia is influenced by the pos. state of the North Atlantic Oscillation Index since 1980 and also by occasional fast-moving summer air masses from northern Eurasian croplands. [on SciFinder (R)] 0013-936X airborne/ pesticide/ deposition/ ice/ core/ Svalbard

526. Hernandez, F (2000). Strategies for the sample treatment simplification and sensitivity improvement in pesticide residue analysis: application to the analysis of polar pesticides and selected metabolites in water. *Quaderni - Istituto di Ricerca sulle Acque* 112: 301-338.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2000:871216
Chemical Abstracts Number: CAN 134:136293
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 19, 80
Document Type: Journal
Language: written in English.
Index Terms: Herbicides; Optimization; Pesticides; Soil analysis (strategies for sample treatment simplification and sensitivity improvement in pesticide residue anal. and application to anal. of polar pesticides and selected metabolites in water)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (strategies for sample treatment simplification and sensitivity improvement in pesticide residue anal. and application to anal. of polar pesticides and selected metabolites in water); 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 86-50-0 (Azinphos methyl); 90-15-3 (1-Naphthol); 93-65-2 (Mcpp); 93-72-1 (2,4,5-Tp); 93-76-5 (2,4,5-T); 94-75-7 (2,4-D); 94-81-5 (Mcpb); 94-82-6 (2,4-Db); 101-21-3 (Chlorpropham); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 120-36-5 (2,4-Dp); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-42-9 (Propham); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 314-40-9 (Bromacil); 330-54-1 (Diuron); 330-55-2 (Linuron); 470-90-6 (Chlorfenvinfos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 886-50-0 (Terbutryn); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1007-28-9 (Desisopropylatrazine); 1071-83-6 (Glyphosate); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1912-24-9 (Atrazine); 1967-16-4 (Chlorbufam); 1982-47-4 (Chloroxuron); 2212-67-1 (Molinate); 2310-17-0; 2921-88-2 (Chloropyrifos); 5598-13-0 (Chlorpyrifos methyl); 5915-41-3 (Terbutylazine); 6190-65-4 (Desethyl atrazine); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 16118-49-3 (Carbetamide); 18691-97-9 (Methabenzthiazuron); 21087-64-9 (Metribuzine); 22224-92-6 (Fenamiphos); 28249-77-6 (Thiobencarb); 33693-04-8 (Terbumeton); 51276-47-2 (Glufosinate); 71385-99-4 (Amino methyl phosphoric acid) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (strategies for sample treatment simplification and sensitivity improvement in pesticide residue anal. and application to anal. of polar pesticides and selected metabolites in water)
Citations: Barcelo, D; Techniques and Instrumentation in Analytical Chemistry 1997, 19
Citations: Beltran, J; Int J Environ Anal Chem 1995, 58, 287
Citations: Beltran, J; Australian J Soil Research 1996, 34, 599
Citations: Beltran, J; Chromatographia 1997, 44, 274
Citations: Beltran, J; Anal Chim Acta 1997, 356, 125
Citations: Beltran, J; European J Soil Science 1998, 49, 149
Citations: Beltran, J; J Chromatogr 1998, 808, 257
Citations: Font, N; J Chromatog 1998, 798, 179
Citations: Health Council of the Netherlands: Committee on Pesticides and Groundwater; Risks of pesticides to groundwater ecosystems 1996, 1996/11E
Citations: Hernandez, F; Quim Anal 1994, 13, 115
Citations: Hernandez, F; Cromatographia 1996, 42, 151
Citations: Hernandez, F; J Chromatogr 1997, 778, 171
Citations: Hernandez, F; Quim Anal 1997, 16(Suppl 2), S259-265
Citations: Hernandez, F; Int J Environ Anal Chem 1998, 71, 87
Citations: Hernandez, F; Anal Chem 1998, 70, 3322
Citations: Hidalgo, C; Anal Chim Acta 1997, 38, 223
Citations: Hidalgo, C; Chromatographia 1998, 47, 596
Citations: Hidalgo, C; J Chromatogr 1998, 823, 121
Citations: Hogendoorn, E; Anal Chem 1999, 71, 1111
Citations: Lopez, F; J Chromatogr 1998, 823, 25
Citations: Sancho, J; Anal Chim Acta 1993, 283, 287
Citations: Sancho, J; J Chromatogr 1994, 678, 59
Citations: Sancho, J; Int J Environ Anal Chem 1996, 62, 53
Citations: Sancho, J; J Chromatogr 1996, 737, 75

Citations: Sancho, J; J Chromatogr 1997, 761, 322 The simplification of sample prepn. in the field of pesticide residue anal. (PRA) is receiving increasing attention in the last years, as sample handling steps are highly time-consuming and the source of important anal. errors. Besides, they generate the bulk of chem. residues (mainly org. solvents). Many papers have pointed out the need for developing new extn. methods in order to simplify extn. procedures and to reduce in scale (microextn. procedures) thus reducing solvent and reagents consumption. Two research lines can be pointed out in the field of PRA by Gas Chromatog.: the use of Solid Phase Microextn. (SPME) and the application of procedures based on large vol. injection (LVI). As regards LVI, our studies have been devoted to the optimization of the injection technique itself (introducing >100-200 mL in the GC through the use of a modified on-column injection port or using a PTV injection port) and subsequently to the application of microextn. procedures (LLME and SPE) that use only reduced amt. of sample and org. solvents. We have applied these procedures to the detn. of several OP's and triazines in groundwater and surface water. One of the main advantages is their great sensitivity (LOD's in the range of few ppt) using sample vols. of only 5-50 mL. The development of LVI is the preliminary step for LC-GC coupling, which could allow the complete automation of sample prepn. Our 2nd research line in GC anal. has been directed towards the optimization and application of SPME, a technique that eliminates the need for using org. solvents in extn. processes. This technique has been applied to the detn. of several OP's and to a heterogeneous group of herbicides (including triazines, molinate and bromacil). Several advantages can be pointed out: no solvents are used for extn., all the sample extd. is introduced into the GC system, it is fast and east-to-apply, and low cost. At present, our group is studying the feasibility of applying this technique to the detn. of herbicides (and other compds.) in soil samples. As expected, LC is the best choice for the trace-level detn. of these analyses. The necessity for very sensitive and selective anal. methods has propitiated the development of multidimensional LC, distinguishing between coupling 2 high-resoln. columns (LC-LC) and solid-phase extn. coupled online to LC (SPE-LC). Compds. studied are phenylureas, triazines, phenylcarbamates, glufosinate, glyphosate and some of their metabolites. [on SciFinder (R)] 0390-6329 sample/ treatment/ simplification/ sensitivity/ pesticide/ residue/ analysis/ water

527. Hernandez, F., Morell, I., Beltran, J., and Lopez, F. J (1993). Multi-residue procedure for the analysis of pesticides in groundwater: application to samples from the Comunidad Valenciana, Spain. *Chromatographia* 37: 303-12.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1993:678230
Chemical Abstracts Number: CAN 119:278230
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Water pollution (by pesticides, of groundwater, in Comunidad Valenciana, Spain); Pesticides (detn. of, in groundwater, by liq.-liq. extn. and capillary gas chromatog. with dual detection)
CAS Registry Numbers: 55-38-9 (Fenthion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 80-33-1 (Chlorfenson); 82-68-8 (Quintozene); 99-30-9 (Dichloran); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 309-00-2 (Aldrin); 470-90-6 (Chlorfenvinfos); 732-11-6 (Phosmet); 919-86-8 (Demeton-S-Methyl); 944-22-9 (Fonofos); 950-37-8; 959-98-8 (Endosulfan A); 1582-09-8 (Trifluralin); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2595-54-2 (Mecarbam); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos methyl); 6923-22-4 (Monocrotophos); 10265-92-6; 33213-65-9 (Endosulfan B); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52918-63-5 (Deltamethrin) Role: ANT (Analyte), ANST (Analytical

study) (detn. of, in groundwater, by liq.-liq. extn. and capillary gas chromatog. with dual detection); 7732-18-5 (Water) Role: ANST (Analytical study) (pesticide detn. in ground, by liq.-liq. extn. and capillary gas chromatog. with dual detection system) A simple multi-residue procedure has been developed and applied to the detn. of pesticides in groundwater samples from the Comunidad Valenciana, a predominantly agricultural area on the Mediterranean coast of Spain. The procedure includes liq.-liq. extn., after addn. of NaCl to the samples, and subsequent anal. by capillary gas chromatog. using a dual detection system with electron capture and nitrogen-phosphorus detectors. This method allows the detn. of >30 compds. (organophosphorus, organochlorine, and pyrethroid pesticides) at low ppb (mg/L) levels. Detection limits obtained varied between 0.01 mg/L (lindane, fonofos) and 0.5 mg/L (cypermethrin). An addnl. injection of the sample exts. into a gas chromatograph equipped with a column of different polarity and electron capture detector is used for the confirmation of chromatog. peaks. The recommended procedure has been applied to 66 groundwater samples. Pesticides, including organophosphorus and organochlorine compds., were detected in 31 of them, at levels of 0.02-0.7 mg/L. [on SciFinder (R)] 0009-5893 pesticide/ detn/ groundwater/ gas/ chromatog;/ dual/ detector/ gas/ chromatog/ pesticide/ water

528. Hernandez, F., Serrano, R., Beltran, J., and Lopez, F. J. (1996). Comparison of Cleanup Techniques for Simple Method for Analysis of Selected Organophosphorus Pesticide Residues in Molluscs. *Journal of aoac international* 79: 123-131.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A simple method for determination of 5 organophosphorus pesticides (dimethoate, chlorfenvinphos, chlorpyrifos, methidathion, and phosmet) in molluscs (Mytilus gailoprovincialis and Venus gallina) was developed, with special attention to cleanup. Organophosphorus pesticides were extracted with acetonitrile-acetone (90 + 10, v/v) in a high-speed blender. Two cleanup procedures were used to defat extracts prior to injection into a gas chromatograph: liquid-liquid partition with acetonitrile-hexane and adsorption column chromatography with silica gel. The latter was more efficient for elimination of fat and fractionation of pesticides with different polarities. Limits of detection of the overall procedure including extraction and cleanup ranged from 0.2 to 1 ng/g. Quantitative recoveries for pesticide concentrations ranging from 1 to 10 000 ng/g were obtained.
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: ECOLOGY
MESH HEADINGS: OCEANOGRAPHY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: MOLLUSCA/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: MOLLUSCA
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques

KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Pest Control
KEYWORDS: Invertebrata
KEYWORDS: Pelecypoda
LANGUAGE: eng

529. Hernandez, F., Serrano, R., Pitarch, E., and Lopez, F. J (1998). Automated sample clean-up procedure for organophosphorus pesticides in several aquatic organisms using normal phase liquid chromatography. *Analytica Chimica Acta* 374: 215-229.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1998:626531
Chemical Abstracts Number: CAN 130:34400
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 9
Document Type: Journal
Language: written in English.
Index Terms: Crustacean; Fish; Phytoplankton; Sample preparation (automated sample clean-up for organophosphorus pesticides in aquatic organisms, using liq. chromatog.); Pesticides (organophosphorus; automated sample clean-up for organophosphorus pesticides in aquatic organisms, using liq. chromatog.)
CAS Registry Numbers: 60-51-5 (Dimethoate); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-02-2 ((Phorate); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet).); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyrifos) Role: ANT (Analyte), ANST (Analytical study) (automated sample clean-up for organophosphorus pesticides in aquatic organisms, using liq. chromatog.)
Citations: 1) Barcelo, D; J Chromatogr 1993, 643, 117
Citations: 2) Hernandez, F; Chromatographia 1996, 42, 151
Citations: 3) Barcelo, D; Int J Environ Anal Chem 1990, 38, 199
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Citations: 8) Greve, P; Analytical methods for residues of pesticides in foodstuffs 5th ed 1988
Citations: 9) Cunniff, P; Official Methods of Analysis of AOAC International 16th ed 1995
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Citations: 13) Serrano, R; Ph D Thesis Universidad de Valencia 1991
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Citations: 15) Serrano, R; Int J Environ Anal Chem 1998, 62, 1
Citations: 16) Serrano, R; J Chromatogr A 1997, 778, 151
Citations: 17) Gillespie, A; J Liq Chromatogr 1986, 9, 2111
Citations: 18) Gillespie, A; J Liq Chromatogr 1989, 12, 1687
Citations: 19) Hogendoorn, E; J High Resolut Chromatogr 1989, 12, 784
Citations: 20) Zollner, N; Ges Exp Med 1962, 135, 545
Citations: 21) Grob, K; J High Resolut Chromatogr 1991, 14, 373 Automated procedures based on normal phase liq. chromatog. (LC) have been developed for the sample clean-up of phytoplankton, crustaceans and fish exts. prior to gas chromatog. anal. of organophosphorus pesticide residues (phorate, dimethoate, fonofos, fenitrothion, malathion, chlorpyrifos, chlorfenvinphos, methidathion and phosmet). Extn. was carried out by high-speed blending with acetonitrile-acetone (90:10, vol./vol.). The ext. was concd. by a Kuderna-Danish evapn. system and evapd. to

dryness under a gentle stream of nitrogen at 40 Deg and the residue was dissolved in n-hexane. A 1 mL portion of the hexane ext. was injected on the LC system using a silica-gel column and diode array detection for the online monitoring of lipid elution. Difference in behavior of lipids present in marine organism exts. and the wide polarity range of pesticides studied made necessary the design of specific elution procedures for each species in order to obtain pesticides in fat-free fractions using different mixts. of hexane-Et acetate as mobile phases. The automated sample clean-up procedures developed allowed the direct injection of 1 mL LC fractions contg. pesticides in the gas chromatog. (GC) system. Recoveries of pesticides in spiked samples after application of the overall procedure, including extn. of samples, LC automated clean-up and GC anal., ranged from 80 to 114% (except for phorate, 68%) and limits of detection were between 2 and 10 ng g-1, using as little as 1 g of sample per anal. The procedures developed offer several advantages: they are very efficient for fat elimination, the solvent consumption is low, and they allow fully automated clean-up. They were applied in bioaccumulation studies performed on molluscs, crustaceans and fish, and also to natural samples collected from different pollution vulnerable areas at the Mediterranean Spanish coast. [on SciFinder (R)] 0003-2670 cleanup/ organophosphorus/ pesticide/ aquatic/ organism/ liq/ chromatog

530. Hernandez, Felix, Serrano, Roque, Beltran, Joaquim, and Lopez, Francisco (1996). Comparison of cleanup techniques for simple method for analysis of selected organophosphorus pesticide residues in mollusks. *Journal of AOAC International* 79: 123-31.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:155237
Chemical Abstracts Number: CAN 124:222958
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Mytilus galloprovincialis; Pesticides; Venus gallina (cleanup techniques for anal. of organophosphorus pesticide residues in mollusks)
CAS Registry Numbers: 60-51-5P (Dimethoate); 470-90-6P (Chlorfenvinphos); 732-11-6P (Phosmet); 950-37-8P (Methidathion); 2921-88-2P (Chlorpyrifos) Role: ANT (Analyte), PUR (Purification or recovery), ANST (Analytical study), PREP (Preparation) (cleanup techniques for anal. of organophosphorus pesticide residues in mollusks) A simple method for detn. of 5 organophosphorus pesticides (dimethoate, chlorfenvinphos, chlorpyrifos, methidathion, and phosmet) in mollusks (Mytilus galloprovincialis and Venus gallina) was developed, with special attention to cleanup. Organophosphorus pesticides were extd. with acetonitrile-acetone (90+10, vol./vol.) in a high-speed blender. Two cleanup procedures were used to defat exts. prior to injection into a gas chromatograph: liq.-liq. partition with acetonitrile-hexane and adsorption column chromatog. with silica gel. The latter was more efficient for elimination of fat and fractionation of pesticides with different polarities. Limits of detection of the overall procedure including extn. and cleanup ranged from 0.2 to 1 ng/g. Quant. recoveries for pesticide concns. ranging from 1 to 10 000 ng/g were obtained. [on SciFinder (R)] 1060-3271 organophosphorus/ pesticide/ residue/ mollusk;/ Mytilus/ organophosphorus/ pesticide/ residue;/ Venus/ organophosphorus/ pesticide/ residue

531. Hernandez, Janet, Robledo, Norma R., Velasco, Luis, Quintero, Rodolfo, Pickard, Michael A., and Vazquez-Duhalt, Rafael (1998). Chloroperoxidase-mediated oxidation of organophosphorus pesticides. *Pesticide Biochemistry and Physiology* 61: 87-94.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1998:573489

Chemical Abstracts Number: CAN 129:271871
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus; chloroperoxidase-mediated oxidn. of organophosphorus pesticides)
CAS Registry Numbers: 9055-20-3 (Chloroperoxidase) Role: CAT (Catalyst use), USES (Uses) (chloroperoxidase-mediated oxidn. of organophosphorus pesticides); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 86-50-0 (Azinphosmethyl); 97-17-6; 732-11-6 (Phosmet); 2921-88-2 (Chlorpyrifos); 13071-79-9 (Terbufos) Role: REM (Removal or disposal), PROC (Process) (chloroperoxidase-mediated oxidn. of organophosphorus pesticides); 311-45-5 (Paraoxon); 961-22-8 (Azinphos-methyl oxon); 1113-02-6 (Dimethoxon); 3279-62-7; 3735-33-9 (Phosmet oxon); 5598-15-2 (Chlorpyrifos oxon) Role: FMU (Formation, unclassified), FORM (Formation, nonpreparative) (product of chloroperoxidase-mediated pesticide oxidn.)

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Citations: 2) Kulkarni, A; Pharmacol Ther 1980, 8, 379
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Citations: 35) Yadav, J; Appl Environ Microbiol 1995, 61, 2560
Citations: 36) Bumpus, J; Science 1985, 228, 1434
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Citations: 38) Murray, M; J Pharmacol Exp Ther 1995, 272, 639
Citations: 39) Butler, A; Pharmacol Exp Ther 1997, 280, 966 Chloroperoxidase from Caldariomyces fumago was tested for the oxidn. of 10 organophosphorus pesticides.

Organophosphorus pesticides contg. the phosphorothioate group, azinphos-Me, chlorpyrifos, dichlorofenthion, dimethoate, parathion, phosmet, and terbufos were oxidized by chloroperoxidase in the presence of hydrogen peroxide and chloride ions. The products were identified as oxon derivs. (phosphates), where the sulfur atom from the thioate group is substituted by an oxygen atom. No hydrolysis products were detected after enzymic oxidn. of these pesticides, and no halogenation of substrates was detected. Chloroperoxidase oxidn. of relatively toxic organophosphorus pesticides produces metabolites similar to those formed by cytochrome P 450 during the metabolic activation of pesticides in vivo. However, the major difference between these biocatalysts is that further cleavage of oxons, which is typical of the P 450-catalyzed reaction, was not obsd. with chloroperoxidase. (c) 1998 Academic Press. [on SciFinder (R)] 0048-3575 chloroperoxidase/ biocatalytic/ oxidn/ organophosphorus/ pesticide

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Chem Codes : Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:496965
Chemical Abstracts Number: CAN 117:96965
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 9, 80
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (cholinesterase inhibition by, biomol. rate consts. of, pyridinium oxime effect on, enzymic detection in water in relation to)
CAS Registry Numbers: 56-72-4 (Coumaphos); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 297-97-2 (Thionazin); 300-76-5 (Dibrom); 311-45-5; 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 644-64-4 (Dimetilan); 732-11-6 (Phosmet); 950-35-6 (Paraoxonmethyl); 950-37-8 (Methidathion); 961-22-8; 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1634-78-2 (Malaoxon); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 2032-65-7 (Methiocarb); 2104-96-3 (Bromophosmethyl); 2179-25-1 (Methiocarb sulfone); 2255-17-6; 2310-17-0 (Phosalone); 2631-37-0; 2635-10-1 (Methiocarb sulfoxide); 2921-88-2; 4824-78-6 (Bromophosethyl); 5598-13-0; 6552-12-1 (Fenoxon); 6988-21-2 (Dioxacarb); 7786-34-7 (Mevinphos); 10309-97-4; 10311-84-9 (Dialifos); 13457-18-6 (Pyrazophos); 14816-18-3 (Phoxim); 16655-82-6 (3-Hydroxycarbofuran); 16752-77-5 (Methomyl); 17040-19-6; 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29973-13-5 (Ethiofencarb); 34681-10-2 (Butocarboxim); 34681-23-7 (Butocarboxim sulfone); 34681-24-8 (Butocarboxim sulfoxide); 38260-54-7; 39923-25-6; 53380-22-6 (Ethiofencarb sulfoxide); 53380-23-7 Role: ANST (Analytical study) (cholinesterase inhibition by, biomol. rate consts. of, pyridinium oxime effect on, enzymic detection of insecticides in water in relation to); 16969-45-2D (Pyridinium) Role: PRP (Properties) (effect of, on biomol. rate consts. of cholinesterase inhibition by insecticides, in water anal.); 9000-81-1 (Acetylcholinesterase); 9001-08-5 (Cholinesterase) Role: ANT (Analyte), ANST (Analytical study) (inhibition of, by insecticides, biomol. rate consts. of, detn. of, pyridinium oxime effect on, water anal. in relation to); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (insecticide detn. in, cholinesterase inhibition test for) The detection of different cholinesterase inhibiting substances in water were investigated by the cholinesterase inhibition test. The inactivation abilities against cholinesterase from 4 different biol. origins were measured. General rules to detect and discriminate insecticides were derived from the biomol. rate consts., ki, of 55 relevant organophosphorus compds., carbamates, and carbamate metabolites. Thionophosphates were converted into more powerful inhibiting oxones by oxidn. with N-bromosuccinimide. The inactivation values, ki, differ in some cases up to 6 orders of magnitude for different insecticides,

and 3 orders of magnitude for different enzymes. The inactivation of acetylcholinesterase by organophosphorus compds. can be suppressed by reactivation with obidoxime. An acceleration of inactivation of butyrylcholinesterase by carbofuran and certain other carbamates was obsd. under the influence of bispyridinium oximes. [on SciFinder (R)] 0306-7319 insecticide/ detn/ water/ cholinesterase/ inhibition/ test;/ enzymic/ detection/ cholinesterase/ inhibiting/ insecticide/ water;/ pyridinium/ oxime/ effect/ cholinesterase/ inactivation/ insecticide

533. Hewett, G. R. and Heard, T. W. (1982). Phosmet for the Systemic Control of Pig Mange. *Vet Rec* 111: 558.
Chem Codes: Chemical of Concern: PSM Rejection Code: ABSTRACT.

MESH HEADINGS: Animals
MESH HEADINGS: Animals, Newborn
MESH HEADINGS: Diazinon/therapeutic use
MESH HEADINGS: Female
MESH HEADINGS: Insecticides/*therapeutic use
MESH HEADINGS: Phosmet/*therapeutic use
MESH HEADINGS: Pregnancy
MESH HEADINGS: Pregnancy Complications, Infectious/prevention &amp
MESH HEADINGS: control/*veterinary
MESH HEADINGS: Scabies/*veterinary
MESH HEADINGS: Swine
MESH HEADINGS: Swine Diseases/*prevention &amp
MESH HEADINGS: control
LANGUAGE: eng

534. Hiemstra, Maurice and De Kok, Andre (2007). Comprehensive multi-residue method for the target analysis of pesticides in crops using liquid chromatography-tandem mass spectrometry. *Journal of Chromatography, A* 1154: 3-25.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:617104
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Tandem mass spectrometry (electrospray-ionization; pesticides and metabolites in food detd. by LC-ESI-MS-MS after solvent extn.); Mass spectrometry (liq. chromatog. combined with; pesticides and metabolites in food detd. by LC-ESI-MS-MS after solvent extn.); Liquid chromatography (mass spectrometry combined with; pesticides and metabolites in food detd. by LC-ESI-MS-MS after solvent extn.); Apple; Brassica oleracea capitata; Cabbage; Citrus sinensis; Food analysis; Grape; Lactuca sativa; Lettuce; Malus pumila; Orange; Pesticides; Solvent extraction; Vitis vinifera; Wheat flour (pesticides and metabolites in food detd. by LC-ESI-MS-MS after solvent extn.); Electrospray ionization mass spectrometry (tandem; pesticides and metabolites in food detd. by LC-ESI-MS-MS after solvent extn.)
CAS Registry Numbers: 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorphon); 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 114-26-1 (Propoxur); 116-06-3 (Aldicarb); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-39-4 (Diphenylamine); 141-66-2 (Dicrotophos); 148-79-8 (Thiabendazole); 301-12-2; 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 919-86-8 (Demeton-S-methyl); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1593-77-7 (Dodemorph); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1746-81-2 (Monolinuron); 2032-65-7 (Methiocarb); 2104-64-5

(EPN); 2179-25-1 (Methiocarb sulfone); 2275-23-2 (Vamidothion); 2312-35-8 (Propargite); 2588-03-6 (Phorate sulfoxide); 2635-10-1 (Methiocarb sulfoxide); 2703-37-9 (Thiometon sulfoxide); 2921-88-2 (Chlorpyrifos); 3060-89-7 (Metobromuron); 3337-71-1 (Asulam); 3735-33-9 (Phosmet oxon); 3761-41-9 (Fenthion sulfoxide); 4710-17-2; 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13171-21-6 (Phosphamidon); 13360-45-7 (Chlorbromuron); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 13749-94-5 (methomyl-oxime); 16655-82-6 (3-Hydroxycarbofuran); 16752-77-5 (Methomyl); 17040-19-6 (Demeton-S-methyl sulfone); 18854-01-8 (Isoxathion); 19937-59-8 (Metoxuron); 20300-00-9 (Vamidothion sulfoxide); 20301-63-7 (Thiometon sulfone); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23564-05-8 (Thiophanate-methyl); 23947-60-6 (Ethirimol); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 26225-79-6 (Ethofumesate); 26644-46-2 (Triforine); 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 34681-10-2 (Butocarboxim); 34681-23-7 (Butocarboxim sulfone); 34681-24-8 (Butocarboxim sulfoxide); 35554-44-0 (Imazalil); 35575-96-3 (Azamethiphos); 39184-27-5 (Thiofanox sulfoxide); 39184-59-3 (Thiofanox sulfone); 39196-18-4 (Thiofanox); 41198-08-7 (Profenofos); 41483-43-6 (Bupirimate); 41814-78-2 (Tricyclazole); 43121-43-3 (Triadimefon); 50512-35-1 (Isoprothiolane); 53112-28-0 (Pyrimethanil); 53380-22-6 (Ethiofencarb sulfoxide); 53380-23-7 (Ethiofencarb sulfone); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55512-33-9 (Pyridate); 55814-41-0 (Mepronil); 57018-04-9 (Tolclophos-methyl); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 60207-31-0 (Azaconazole); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66063-05-6 (Pencycuron); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 66840-71-9; 67306-00-7 (Fenpropidin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68694-11-1 (Triflumizole); 69327-76-0 (Buprofezin); 70898-34-9 (Vamidothion sulfone); 72490-01-8 (Fenoxycarb); 73250-68-7 (Mefenacet); 74115-24-5 (Clofentezine); 75736-33-3; 76274-46-9 (oxamyl-oxime); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 77732-09-3 (Oxadixyl); 78587-05-0 (Hexythiazox); 79983-71-4 (Hexaconazole); 80844-07-1 (Etofenprox); 81412-43-3 (Tridemorph); 83657-24-3 (Diniconazole); 85509-19-9 (Flusilazole); 87130-20-9 (Diethofencarb); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 94361-06-5 (Cyproconazole); 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 98886-44-3 (Fosthiazate); 104030-54-8 (Carpropamid); 107534-96-3 (Tebuconazole); 110235-47-7 (Mepanipyrim); 110488-70-5 (Dimethomorph); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 114369-43-6 (Fenbuconazole); 116255-48-2 (Bromuconazole); 117428-22-5 (Picoxystrobin); 118134-30-8 (Spiroxamine); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenoconazole); 120116-88-3 (Cyazofamid); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 123312-89-0 (Pymetrozine); 125116-23-6 (Metconazole); 126833-17-8 (Fenhexamid); 131807-57-3 (Famoxadone); 131860-33-8 (Azoxystrobin); 131983-72-7 (Triticonazole); 133855-98-8 (Epoxiconazole); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 136426-54-5 (Fluquinconazole); 138261-41-3 (Imidacloprid); 140923-17-7 (Iprovalicarb); 141112-29-0 (Isoxaflutole); 141517-21-7 (Trifloxystrobin); 142459-58-3 (Flufenacet); 143390-89-0 (Kresoxim-methyl); 145701-23-1 (Florasulam); 148477-71-8 (Spirodiclofen); 149961-52-4 (Dimoxystrobin); 150824-47-8 (Nitenpyram); 153719-23-4 (Thiamethoxam); 156052-68-5 (Zoxamide); 161050-58-4 (Methoxyfenozide); 161326-34-7 (Fenamidone); 173584-44-6 (Indoxacarb); 175013-18-0 (Pyraclostrobin); 181587-01-9 (Ethiprole); 188425-85-6 (Boscalid); 210880-92-5 (Clothianidin)
Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides and metabolites in food detd. by LC-ESI-MS-MS after solvent extn.)
Citations: 1) Anon; Analytical Methods for Pesticide Residues in Foodstuffs, Part I, General Inspectorate for Health Protection, sixth ed 1996
Citations: 2) de Kok, A; J AOAC Int 1992, 75, 1063
Citations: 3) Hiemstra, M; J AOAC Int 1995, 78, 1267
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Citations: 7) Zrostlikova, J; J AOAC Int 2003, 86, 612

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Citations: 11) Hetherton, C; Rapid Commun Mass Spectrom 2004, 18, 2443
Citations: 12) Ortelli, D; Anal Chim Acta 2004, 520, 33
Citations: 13) Granby, K; Anal Chim Acta 2004, 520, 165
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Citations: 17) Anastassiades, M; J AOAC Int 2003, 86, 412
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Citations: 19) Anon; Off J Eur Commun 2002, L221, 8
Citations: 20) European Commission Directorate General Health And Consumer Protection; Guidance Document on Quality Control Procedures for Pesticide Residues Analyses 2006, SANCO/10232/2006
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Citations: 24) Anon; European Commission's Proficiency test on Pesticide Residues in Fruit and Vegetables, Proficiency test 6 2004
Citations: 25) Anon; European Commission's Proficiency test on Pesticide Residues in Fruit and Vegetables, Proficiency test 7 2005
Citations: 26) Anon; European Commission's Proficiency test on Pesticide Residues in Fruit and Vegetables, Proficiency test 8 2006 A liq. chromatog.-tandem quadrupole mass spectrometry (LC-MS/MS) multi-residue method for the simultaneous target anal. of a wide range of pesticides and metabolites in fruit, vegetables and cereals was developed. Gradient elution was used in conjunction with pos. mode electrospray ionization tandem mass spectrometry to detect up to 171 pesticides and/or metabolites in different crop matrixes using a single chromatog. run. Pesticide residues were extd./partitioned from the samples with acetone/dichloromethane/light petroleum. The anal. performance was demonstrated by the anal. of exts. from lettuce, orange, apple, cabbage, grape and wheat flour, spiked at 3 concn. levels ranging from 0.01 to 0.10 mg/kg for each pesticide and/or metabolite. In general, recoveries ranging from 70 to 110%, with relative std. deviations better than 15%, were obtained. The recovery and repeatability data are in good accordance with EU guidelines for pesticide residue anal. The limit of quantification for all targeted pesticides and metabolites tested was 0.01 mg/kg. The selectivity and robustness of the LC-MS/MS method was demonstrated by a 1-yr comparison of its anal. results with those obtained from validated GC and LC multi-residue methods applied to more than 3500 routine samples. The validated LC-MS/MS method was implemented in the anal. scheme since 2004, replacing 4 of the conventional detection methods, i.e. GC-flame-photometric detection (acephate, methamidophos, etc.), GC-nitrogen-phosphorus detection, LC-UV detection (carbendazim, thiabendazole, imazalil and prochloraz) and LC-fluorescence detection (N-methylcarbamate pesticides). During a 3-yr period, the LC-MS/MS method was applied to the analyses of more than 12,000 samples. [on SciFinder (R)] 0021-9673 pesticide/ food/ analysis/ extn/ LC/ ESI/ MSMS

535. Hill, Alan R. C. and Reynolds, Stewart L (2002). Unit-to-unit variability of pesticide residues in fruit and vegetables. *Food Additives and Contaminants* 19: 733-747.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:734887
Chemical Abstracts Number: CAN 137:384023
Section Code: 17-5
Section Title: Food and Feed Chemistry

CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Actinidia chinensis; Apium graveolens; Citrus sinensis; Food contamination; Fruit; Lycopersicon esculentum; Malus pumila; Musa; Orange; Pesticides; Prunus domestica; Prunus persica; Prunus persica nectarina; Pyrus communis; Solanum tuberosum; Vegetable (pesticide residues in fruit and vegetables in relation to unit-to-unit variability)
CAS Registry Numbers: 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1634-78-2 (Malaoxon); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2595-54-2 (Mecarbam); 2921-88-2 (Chlorpyrifos); 10265-92-6 (Methamidophos); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 22259-30-9 (Formetanate); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 35554-44-0 (Imazalil); 41483-43-6 (Bupirimate); 57018-04-9 (Tolclofos-methyl); 76738-62-0 (Paclobutrazol) Role: POL (Pollutant), OCCU (Occurrence) (pesticide residues in fruit and vegetables in relation to unit-to-unit variability)
Citations: Anon; The Pesticides (Maximum Residue Levels in Crops, Food and Feeding Stuffs) 2001, 1113
Citations: Codex Alimentarius Commission; Codex Alimentarius 1993, 2
Citations: European Commission; Quality Control Procedures for Pesticide Residues Analysis: Guidelines for Residues Monitoring in the European Union 2nd edn 2000
Citations: FAO; FAO Plant Production and Protection Paper 153 1999
Citations: Hill, A; Food Additives and Contaminants 2000, 17, 539 Pesticide residue levels (36 pesticides and some of their metabolites) were detd. in the individual units taken from large samples of apples, bananas, celery, kiwi fruit, oranges, peaches and nectarines, pears, plums, potatoes, and tomatoes. The 65 large samples (generally about 100-110 units, but only 45 units of celery) were purchased at retail or wholesale outlets in the UK. The lots from which the samples were drawn originated from 17 different countries. Av. concns. in the samples were in the approx. range 0.002-2 mg kg-1. Unit-to-unit variability factors (97.5th percentile mg kg-1/av. mg kg-1), for the pesticide/product combination data sets in which > 10% of samples contained measurable residues (n = 106), were in the range 1.4-9.6 (11.1 based on a value of zero for data below reporting limits). Anal. variance contributed only a small proportion (up to 11%) to the overall variance of the 106 data sets. There was no evidence of a relationship between the variability factor and the commodity, country of origin, residue concn. or the physicochem. characteristics of the pesticide. The extent of variability appears to be detd. at or about the time of pesticide application. Taking non-detectable residues as half the reporting limits, the frequency distribution of variability factors was approx. log-normal, with a geometric mean of 3.4. The corresponding 95% probability limits of the variability factors were calcd. to be 1.6 and 7.6. [on SciFinder (R)] 0265-203X fruit/ vegetable/ pesticide/ contamination/ variation

536. Hill, Elwood F., Heath, Robert G., Spann, James W., and Williams, Joseph D (1975). Lethal dietary toxicities of environmental pollutants to birds. *Special Scientific Report: Wildlife - United States, Fish and Wildlife Service* 191: 61 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1976:131017
Chemical Abstracts Number: CAN 84:131017
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.

Index Terms: Anas platyrhynchos; Colinus virginianus; Coturnix coturnix japonica; Phasianus colchicus (industrial chems. and pesticides toxicity to); Environment (pollution of, bird toxicity from); Pyrethrins Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, to birds)
CAS Registry Numbers: 50-29-3; 52-68-6; 52-85-7; 55-38-9; 56-38-2; 56-72-4; 57-74-9; 58-89-9; 60-51-5; 60-57-1; 61-82-5; 62-38-4; 62-73-7; 63-25-2; 67-64-1; 72-20-8; 72-43-5; 72-54-8; 72-55-9; 72-56-0; 76-44-8; 78-34-2; 83-79-4; 84-74-2; 85-00-7; 85-34-7; 86-50-0; 87-86-5; 88-30-2; 88-85-7; 90-98-2; 93-72-1; 94-81-5; 94-82-6; 101-42-8; 114-26-1; 115-29-7; 115-32-2; 115-90-2; 116-06-3; 116-29-0; 117-80-6; 117-81-7; 118-74-1; 121-75-5; 122-14-5; 122-34-9; 123-88-6; 127-20-8; 133-06-2; 137-26-8; 137-42-8; 140-57-8; 141-00-4; 141-66-2; 142-59-6; 150-68-5; 297-97-2; 298-00-0; 298-02-2; 298-04-4; 300-76-5; 301-12-2; 309-00-2; 315-18-4; 330-54-1; 330-55-2; 333-41-5; 502-39-6; 517-16-8; 563-12-2; 732-11-6; 944-22-9; 953-17-3; 1113-14-0; 1194-65-6; 1314-84-7; 1563-66-2; 1910-42-5; 1912-24-9; 1918-02-1; 1929-73-3; 2008-39-1; 2032-59-9; 2032-65-7; 2104-64-5; 2385-85-5; 2545-59-7; 2597-03-7; 2921-88-2; 3244-90-4; 3383-96-8; 6164-98-3; 6923-22-4; 7487-94-7; 7645-25-2; 7745-89-3; 7778-50-9; 7784-40-9; 7786-34-7; 8001-35-2; 8065-36-9; 8065-48-3; 10108-64-2; 10453-86-8; 11096-82-5; 11097-69-1; 11104-28-2; 11141-16-5; 12002-03-8; 12407-86-2; 12642-23-8; 12672-29-6; 13171-21-6; 13194-48-4; 16752-77-5; 17109-49-8; 19398-13-1; 21609-90-5; 21679-31-2; 22224-92-6; 22248-79-9; 24934-91-6; 25474-41-3; 37324-23-5; 52978-63-9; 53469-21-9 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, to birds) A compilation and anal. of the results of nearly 10 years of testing the lethal dietary toxicities of pesticides and industrial chems. to young bobwhites (Colinus virginianus), Japanese quail (Coturnix coturnix japonica), ring-necked pheasants (Phasianus colchicus), and mallards (Anas platyrhynchos) is presented. A total of 130 compds. were tested. Toxicities are expressed as LC50 (median lethal dietary concns.) and are based on 5 days of dietary exposure to the test compd. followed by 3 days of untreated feed. From these data statistical comparisons between toxicities are possible for a given species. The more toxic compds. were halogen derivs. of alicyclic hydrocarbons, derivs. of phosphoric and thiophosphoric acids, and organomercurials. Carbamates, often of extreme acute toxicity to rats, were only moderately toxic to birds. Most carboxylates, ketones, organonitrogen compds., organosulfates and ureas possessed a relatively low order of toxicity. The most frequent order of species susceptibility was bobwhite >Japanese quail >ring-necked pheasant >mallard. This order correlated with their body sizes at the ages tested. [on SciFinder (R)] 0096-123X environment/ pollution/ bird/ toxicity;/ pesticide/ toxicity/ bird

537. Hill, Walter E. and Fessenden, Ralph J. (1974). Structural studies on the 30 S ribosomal subunit from Escherichia coli. *Journal of Molecular Biology* 90: 719-726.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Small-angle X-ray scattering curves computed for various 30 S subunit structures have been compared with the experimental scattering curve. The curve from the 30 S subunit is best approximated by that calculated for a 1:3.6:3.6 ellipsoidal structure. The rather prolate ellipsoidal model suggested by recent electron microscope studies gives a scattering curve considerably different from the 30 S curve, suggesting that the electron microscope model is not that found in solution. Analysis of the more extended portions of the experimental scattering curve suggests some internal structure. A model is proposed that contains RNA and protein in positions such that the calculated scattering curve shows more extensive, yet similar internal structure. Resultant constraints on the structure of the 30 S subunit in solution are given.
http://www.sciencedirect.com/science/article/B6WK7-4DMN9NP-8/2/9dbbb77b0b2a315eef78a8bde37eaafa

538. Hluchy, M., Hurkova, J., Pultar, O., and Zacharda, M. (1990). Predacious Mites Phytoseiidae (Acari: Mesostigmata) in the Biological Control in Orchards and Vineyards. *Sb uvtiz (ustav vedeckotech inf zemed) ochr rostl* 26: 59-66.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. To date 23 species of predatory mites of the

family Phytoseiidae (Acari: Mesotigmata) have been recorded on chemically untreated apple trees and vines in Czechoslovakia. Typhlodromus pyri has been found to be the only one abundant species occurring in commercial apple orchards and vineyards. Toxological bioassays have proved a resistance of some local populations of T. pyri from South Bohemia and South Moravia to fenitrothion, phosmet, mevinphos, azinphosethyl, bromopropylate and dicofol. T. puri is also goalseekinglyused as means of biological control of phytophageous mites in commercial apple orchards and vineyards in some fruit and vine growing areas in Czechoslovakia. Potentialities of a practical use of the indigenous predatory phytoseiid mites inhabiting various wild plants as well as imported strange species Amblyseius fallacis and T. occidentalis are discussed. The dissemination of resistant populations of T. pyri into orchards and vineyards is recommended to be
MESH HEADINGS: ECOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL, BIOLOGICAL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS, MEDICINAL
MESH HEADINGS: ARTHROPODS
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Biological Control
KEYWORDS: Economic Entomology-Integrated Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Rosaceae
KEYWORDS: Acarina
LANGUAGE: cze

539. Hobaus, E. (1989). Active Substances and Plant Protection Agents Approved for Use Against Animal Pests in Viticulture Listed by Active Substance (Wirkstoffe und Genehmigte Pflanzenschutzmittel Gegen Tierische Schadlinge im Weinbau (nach Wirkstoffen Geordnet)). *Pflanzenschutz (Vienna)* 2: 12-15 (GER).
Chem Codes: EcoReference No.: 76474
Chemical of Concern: PCZ,PMR,PRN,CYP,TDF,CBL,CTN,TFR,PSM,PHSL,MP,OMT,MOM,MDT,HTX,FNV,FNTH,FPP,TCF,FNT,FO,ES,AZ,CPYM,CYF,DM,DZ,DMT,DINO Rejection Code: NON-ENGLISH.

540. Hoebaus, E. (1987). Insecticides and Acaricides Approved for Austrian Viticulture and Their Side Effects

on Beneficial Organisms. *Pflanzenschutz (vienna)* 0: 16-19.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW MITES INSECTS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FRUIT
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ARTHROPODS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: INSECTS
MESH HEADINGS: ARTHROPODS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Horticulture-Small Fruits
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Invertebrata
KEYWORDS: Vitaceae
KEYWORDS: Insecta-Unspecified
KEYWORDS: Acarina
LANGUAGE: ger

541. Hoebaus, E. (1987). Review of the Agents and Approved Commercial Preparations Available for Use Against Animal Pests in Viticulture. *Pflanzenschutz (vienna)* 0: 19-21.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM INSECTS MITES INSECTICIDE
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FRUIT
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS

MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ARTHROPODS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: INSECTS
MESH HEADINGS: ARTHROPODS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Horticulture-Small Fruits
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Invertebrata
KEYWORDS: Vitaceae
KEYWORDS: Insecta-Unspecified
KEYWORDS: Acarina
LANGUAGE: ger

542. Hoffman, D. J. (1990). Embryotoxicity and Teratogenicity of Environmental Contaminants to Bird Eggs. *Ware, g. W. (Ed.). Reviews of environmental contamination and toxicology, vol. 115. Ix+156p. Springer-verlag new york, inc.: Secaucus, new jersey, usa* Berlin, west germany. Illus. Isbn 0-387-97289-7; isbn 3-540-97289-7.; 0: 39-90.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: GENITALIA/PATHOLOGY
MESH HEADINGS: GENITALIA/PHYSIOPATHOLOGY
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: FEMALE
MESH HEADINGS: GONADS
MESH HEADINGS: MALE
MESH HEADINGS: PLACENTA
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: ANIMAL
MESH HEADINGS: EMBRYO
MESH HEADINGS: FETAL DISEASES
MESH HEADINGS: HUMAN
MESH HEADINGS: LARVA
MESH HEADINGS: EMBRYOLOGY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BIRDS

KEYWORDS: Biochemical Studies-General
KEYWORDS: Reproductive System-Pathology
KEYWORDS: Endocrine System-Gonads and Placenta
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Developmental Biology-Embryology-Pathological
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Aves-Unspecified
LANGUAGE: eng

543. Hoffmann, Michael P., Gardner, Jeffrey, and Curtis, Paul D (20031023). Fiber-supported pesticidal compositions. 41 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:836400
Chemical Abstracts Number: CAN 139:318718
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: USXXCO
Index Terms: Glycols Role: MOA (Modifier or additive use), USES (Uses) (alyplastic, fiber; support for pest behavior-modifying compn.); Polyester fibers Role: MOA (Modifier or additive use), USES (Uses) (arom.; support for pest behavior-modifying compn.); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (copper salts, mammal repellent; fiber-supported pest behavior-modifying compn.); Anethum graveolens; Insect attractants; Insect feeding inhibitors; Insect repellents; Nepeta cataria; Piper; Repellents; Zingiber officinale (fiber-supported pest behavior-modifying compn.); Allomones; Kairomones; Monoterpenes; Phenols; Pheromones Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pest behavior-modifying compn.); Bacillus thuringiensis; Pesticides; Quassia; Schoenocaulon (fiber-supported pesticidal compn.); Pyrethrins Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pesticidal compn.); Fibers Role: MOA (Modifier or additive use), USES (Uses) (fiber-supported pesticidal compn.); Albumins; Collagens; Gelatins; Neoprene rubber; Ovalbumin; Polyamides; Polyanhydrides; Polycarbonates; Polyoxyalkylenes; Polysiloxanes; Polyurethane fibers; Rayon Role: MOA (Modifier or additive use), USES (Uses) (fiber; support for pest behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (glycolide-based, fiber; support for pest behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (hydroxycarboxylic acid-based, fiber; support for pest behavior-modifying compn.); Polyesters Role: MOA (Modifier or additive use), USES (Uses) (lactide, fiber; support for pest behavior-modifying compn.); Capsicum annuum annuum (longum group, paprika; fiber-supported pest behavior-modifying compn.); Capsicum annuum annuum (longum group; fiber-supported pest behavior-modifying compn.); Polyethers Role: MOA (Modifier or additive use), USES (Uses) (polyamide-, fiber; support for pest behavior-modifying compn.); Synthetic polymeric fibers Role: MOA (Modifier or additive use), USES (Uses) (polyamide-polyethers; support for pest behavior-modifying compn.); Synthetic polymeric fibers Role: MOA (Modifier or additive use), USES (Uses) (polycarbonates; support for pest behavior-modifying compn.); Polyamide fibers Role: MOA (Modifier or additive use), USES (Uses) (polyether-; support for pest behavior-modifying compn.); Aves (repellents; fiber-supported pest behavior-modifying compn.); Insecticides (sterilants; fiber-supported pest behavior-modifying compn.); Polyester fibers; Polyolefin fibers; Polyoxyalkylenes Role: MOA (Modifier or additive use), USES (Uses) (support for pest behavior-modifying compn.); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (zinc salts, mammal repellent; fiber-supported pest behavior-modifying compn.)
CAS Registry Numbers: 84-65-1 (Anthraquinone); 137-30-4 (Ziram.); 333-41-5 (Diazinon); 1332-40-7 (Copper oxychloride); 2032-65-7 (Methiocarb); 12407-86-2 (Trimethacarb); 15879-93-3 (Chloralose); 108173-90-6 (Guazatine) Role: BUU (Biological use, unclassified), BIOL

(Biological study), USES (Uses) (bird repellent; fiber-supported pest behavior-modifying compn.); 57-50-1D (Sugar); 58-08-2 (, Caffein); 404-86-4 (Capsaicin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pest behavior-modifying compn.); 50-14-6 (> Ergocalciferol); 50-29-3 (DDT); 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 55-98-1 (Busulfan); 56-23-5 (Carbon tetrachloride); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 56-75-7 (Chloramphenicol); 57-24-9 (Strychnine); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 62-74-8 (Sodium fluoroacetate); 63-25-2 (Carbaryl); 67-66-3 (Chloroform); 70-38-2 (Dimethrin); 70-43-9 (Barthrin); 71-55-6 (Methylchloroform); 72-43-5 (Methoxychlor); 74-83-9 (Methyl bromide); 74-90-8 (Hydrogen cyanide); 75-09-2 (Methylene chloride); 75-21-8 (Ethylene oxide); 76-06-2 (,Chloropicrin); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-53-5 (Amiton); 78-57-9 (Menazon); 78-87-5 (1,2-Dichloropropane); 79-34-5 (Tetrachloroethane); 80-05-7 (Bisphenol A); 81-81-2 (Warfarin); 81-82-3 (Coumachlor); 82-66-6 (Diphacinone); 83-26-1 (Pindone); 83-79-4 (Rotenone); 85-34-7 (Chlorfenac); 86-50-0 (Azinphosmethyl); 86-88-4 (Antu); 87-86-5 (Pentachlorophenol); 91-20-3 (Naphthalene); 96-24-2 (a-Chlorohydrin); 97-11-0 (Cyclethrin); 97-17-6 (Dichlofenthion); 97-27-8 (Chlorbetamide); 104-29-0 (Chlorphenesin); 106-46-7 (Paradichlorobenzene); 106-93-4 (Ethylene Dibromide); 107-06-2 (Ethylene dichloride); 107-13-1 (Acrylonitrile); 109-94-4 (Ethyl formate); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 115-93-5 (Cythioate); 116-01-8 (Ethoatemethyl); 116-06-3 (Aldicarb); 118-75-2 (Chloranil); 119-12-0 (Pyridaphenthion); 121-20-0 (Cinerin II); 121-21-1 (Pyrethrin I); 121-29-9 (Pyrethrin II); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-15-6 (Dimetan); 126-22-7 (Butonate); 126-75-0 (Demeton-S); 131-89-5 (Dinex); 133-06-2 (Captan); 133-90-4 (,Chloramben); 141-66-2 (Dicrotophos); 143-50-0 (Chlordecone); 144-41-2 (Morphothion); 152-16-9 (Schradan); 288-14-2 (Isoxazole); 298-00-0 (Parathionmethyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 301-12-2 (Oxydemetonmethyl); 302-04-5 (Thiocyanate); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronat); 333-20-0 (Potassium thiocyanate); 370-50-3 (Flucofuron); 371-86-8 (Mipafox); 470-90-6 (Chlorfenvinphos); 483-63-6 (Crotamiton); 485-31-4 (Binapacryl); 494-52-0 (Anabasine); 500-28-7 (Chlorothion.); 507-60-8 (Scilliroside); 535-89-7 (Crimidine); 555-89-5 (Bis(p-chlorophenoxy)methane); 563-12-2 (Ethion); 572-48-5 (Coumithoate); 584-79-2 (Bioallethrin); 640-15-3 (Thiometon); 640-19-7 (Fluoroacetamide); 644-06-4 (Precocene II); 644-64-4 (Dimetilan); 671-04-5 (Carbanolate); 682-80-4 (Demephion-O); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 867-27-6 (Demeton-O-methyl); 919-54-0 (Acethion); 919-76-6 (Amidithion); 919-86-8 (Demeton-S-methyl); 944-22-9 (FOnofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 991-42-4 (Norbormide); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1172-63-0 (Jasmolin II); 1303-96-4 (Borax); 1314-84-7 (Zinc phosphide); 1327-53-3 (Arsenous oxide); 1344-81-6 (Calcium Polysulfide); 1403-17-4 (Candicidin); 1491-41-4 (Naftalofos); 1563-66-2 (Carbofuran); 1563-67-3 (Decarbofuran); 1646-88-4 (Aldoxycarb); 1716-09-2 (Fenthionethyl); 2032-59-9 (Aminocarb); 2104-96-3 (Bromophos); 2274-67-1 (Dimethylvinphos); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2425-10-7 (Xylylcarb); 2463-84-5 (Dicapthon); 2540-82-1 (Formothion); 2550-75-6 (Chlorbicyclen); 2587-90-8 (Demephion-S); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2633-54-7 (Trichlormetaphos-3); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphosethyl); 2655-19-8 (Butacarb); 2669-32-1 (Lythidathion); 2674-91-1 (Oxydeprofos); 2699-79-8 (Sulfuryl fluoride); 2778-04-3 (Endothion); 2921-88-2 (Chlorpyrifos); 3383-96-8 (,Temephos); 3604-87-3 (.a.-Ecdysone); 3689-24-5 (Sulfotep); 3691-35-8 (Chlorophacinone); 3734-95-0 (Cyanthoate); 3761-41-9 (,Mesulfenfos); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 4097-36-3 (Dinosam); 4104-14-7 (Phosacetim); 4151-50-2 (Sulfluramid); 4466-14-2 (Jasmolin I); 4824-78-6 (Bromophosethyl); 5221-49-8 (Pyrimitate); 5598-13-0 (Chlorpyrifosmethyl); 5598-52-7 (Fospirate); 5826-76-6 (Phosnichlor); 5834-96-8 (Azothoate); 5836-29-3 (Coumatetralyl); 5989-27-5; 6164-98-3 (Chlordimeform); 6392-46-7 (Allyxycarb); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7219-78-5 (Mazidox); 7257-41-2 (Dinoprop); 7292-16-2 (Propaphos); 7446-18-6 (Thallium sulfate); 7645-25-2 (Lead arsenate); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7723-14-0 (Phosphorus); 7778-44-1 (Calcium arsenate); 7786-34-7 (Mevinphos); 7803-51-2 (Phosphine); 8001-35-2 (Camphechlor); 8022-00-2 (Demetonmethyl); 8065-36-9

(Bufencarb); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10112-91-1 (Mercurous chloride); 10124-50-2 (Potassium Arsenite); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10453-86-8 (Resmethrin); 10537-47-0 (Malonoben); 10605-21-7 (Carbendazim); 11141-17-6 (Azadirachtin); 12002-03-8 (C.I. Pigment Green 21); 12789-03-6 (Chlordane); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13464-37-4 (Sodium arsenite;); 13593-03-8 (Quinalphos); 13593-08-3 (Quinalphosmethyl); 13804-51-8 (Juvenile hormone I); 14168-01-5 (Dilor); 14255-88-0 (Fenazaflor); 14816-16-1 (Phoximmethyl); 14816-18-3 (Phoxim); 14816-20-7 (Chlorphoxim); 15096-52-3 (Cryolite); 15263-53-3 (Cartap); 15589-31-8 (Terallethrin); 15662-33-6 (Ryania); 16752-77-5 (Methomyl); 16893-85-9 (Sodium hexafluorosilicate); 16984-48-8 (Fluoride); 17080-02-3 (Furethrin); 17125-80-3 (Barium hexafluorosilicate); 17598-02-6 (Precocene I); 17606-31-4 (Bensultap); 17702-57-7 (Formparanate); 18181-70-9 (Jodfenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19691-80-6 (Athidathion); 20276-83-9 (Prothidathion); 20425-39-2 (Pyresmethrin); 21548-32-3 (Fosthietan); 21609-90-5 (Leptophos); 22248-79-9 (>Tetrachlorvinphos); 22259-30-9 (Formetanate); 22431-62-5 (Bioethanomethrin); 22439-40-3 (Quinothion); 22569-71-7 (Phosphide); 22662-39-1 (Rafoxanide); 22781-23-3 (Bendiocarb); 22868-13-9 (Sodium Disulfide,<); 22963-93-5 (Juvenile hormone III); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphosethyl); 23526-02-5 (Thuringiensin,<); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24019-05-4 (Sulcofuron); 24934-91-6 (Chlormephos); 25171-63-5 (Thiocarboxime); 25311-71-1 (Isofenphos); 25402-06-6 (Cinerin); 25601-84-7 (Methocrotophos); 26002-80-2 (Phenothrin); 26097-80-3 (Cambendazole); 28434-01-7 (Bioresmethrin); 28772-56-7 (Bromadiolone); 29173-31-7 (Mecarphon); 29232-93-7 (Pirimiphosmethyl); 29672-19-3 (Nitrilacarb); 29871-13-4 (Copper arsenate); 30087-47-9 (Fenethacarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos); 31377-69-2 (Pirimetaphos); 31895-21-3 (Thiocyclam); 33089-61-1 (Amitraz); 33399-00-7 (Bromfenvinfos); 33629-47-9 (Butralin); 34218-61-6 (Juvenile hormone II); 34264-24-9 (Promacyl); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35367-31-8 (Penfluron); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 35764-59-1 (Cismethrin); 36145-08-1 (Chlorprazophos); 37032-15-8 (Sophamide); 38260-63-8 (Lirimfos); 38524-82-2 (Trifenofos); 38527-91-2 (Etaphos); 39196-18-4 (Thiofanox); 39247-96-6 (Primidophos); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40085-57-2 (Tazimcarb); 40596-69-8 (Methoprene); 40596-80-3 (Triprene); 40626-35-5 (Heterophos); 41096-46-2 (Hydroprene); 41198-08-7 (Profenofos); 41219-31-2 (Dithicrofos); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42588-37-4 (Kinoprene); 50512-35-1; 51487-69-5 (Cloethocarb); 51596-10-2 (Milbemectin); 51630-58-1 (Fenvalerate); 51877-74-8 (Biopermethrin); 52315-07-8 (,Zetacypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53558-25-1 (Pyrinuron); 54406-48-3 (Empenthrin); 54593-83-8 (Chlorethoxyfos); 55179-31-2 (Bitertanol); 55285-14-8 (Carbosulfan); 56073-07-5 (Difenacoum); 56073-10-0 (Brodifacoum); 56716-21-3 (Hyquincarb); 57808-65-8 (Closantel); 58481-70-2 (Dicresyl); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 60238-56-4 (Chlorthiophos); 60589-06-2 (Metoxadiazone); 60628-96-8 (Bifonazole); 61444-62-0 (Nifluridide); 61949-77-7 (Trans-Permethrin); 63333-35-7 (Bromethalin); 63771-69-7 (Zolaprofos); 63837-33-2 (Diofenolan); 63935-38-6 (Cycloprothrin); 64628-44-0 (Triflumuron); 64902-72-3 (Chlorsulfuron); 65383-73-5 (Precocene III); 65400-98-8 (Fenoxacrim); 65691-00-1 (Triarathene); 65907-30-4 (,Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 67485-29-4 (Hydramethylnon); 68359-37-5 (Betacyfluthrin); 68523-18-2 (Fenpirithrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 70288-86-7 (Ivermectin); 71422-67-8 (Chlorfluazuron); 71697-59-1 (Thetacypermethrin); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 72963-72-5 (Imiprothrin); 75867-00-4 (Fenfluthrin); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 80844-07-1 (Etofenprox); 81613-59-4 (Flupropadine); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 83733-82-8 (Fosmethilan); 86479-06-3 (Hexaflumuron); 89784-60-1 (Pyraclofos); 90035-08-8 (Flocoumafen); 90338-20-8 (Butathiofos); 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Tebupirimfos); 96489-71-3 (Pyridaben); 101007-06-1 (Acrinathrin); 101463-69-8 (,Flufenoxuron); 102851-06-9 (Taufluvalinate); 103055-07-8 (Lufenuron); 103782-08-7 (Allosamidin); 104653-34-1

(Difethialone); 105024-66-6 (Silafluofen); 105779-78-0 (Pyrimidifen); 107713-58-6 (Flufenprox); 111872-58-3 (Halfenprox); 112143-82-5 (Triazamate.); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 112636-83-6 (Dicyclanil); 113036-88-7 (Flucycloxuron); 116714-46-6 (NOvaluron); 117704-25-3 (Doramectin); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123997-26-2 (Eprinomectin); 129558-76-5 (TOlfenpyrad); 143807-66-3 (Chromafenozide); 150824-47-8 (Nitenpyram); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 165252-70-0 (Dinotefuran); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 201593-84-2 (Bistrifluron); 209861-58-5 (Acetoprole); 210880-92-5 (Clothianidin); 220119-17-5 (Selamectin); 223419-20-3 (Profluthrin); 240494-70-6 (Metofluthrin); 283594-90-1 (Spiromesifen) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (fiber-supported pesticidal compn.); 51-79-6 (Urethane); 78-79-5 (Isoprene); 108-05-4 (Vinyl acetate); 7782-42-5 (Graphite); 9002-88-4 (Polyethylene); 9002-89-5 (Poly(vinyl alcohol); 9003-05-8; 9003-39-8 (Poly(vinylpyrrolidone); 9003-53-6 (,Polystyrene); 9004-32-4 (Carboxymethyl cellulose sodium salt); 9004-34-6D (Cellulose); 9004-65-3 (Hydroxypropyl methylcellulose); 9005-25-8 (Starch); 9005-32-7 (Alginic acid); 9005-49-6 (Heparin sulfate); 9007-28-7 (Chondroitin sulfate); 24980-41-4 (Polycaprolactone); 25085-53-4 (Isotactic polypropylene); 25248-42-4 (Polycaprolactone); 25322-68-3 (Poly(ethylene oxide); 25702-74-3 (Polysucrose); 25805-17-8 (Poly(ethyloxazoline); 26023-30-3 (Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)]); 26100-51-6 (Polylactic acid); 26780-50-7 (Poly(Lactide-co-glycolide); 31621-87-1 (Polydioxanone) Role: MOA (Modifier or additive use), USES (Uses) (fiber; support for pest behavior-modifying compn.); 84-74-2 (Dibutyl phthalate); 94-96-2 (Ethohexadiol); 131-11-3 (Dimethyl phthalate); 134-62-3 (DEET); 532-34-3 (Butopyronoxyl); 3653-39-2 (,Hexamide); 19764-43-3 (Methoquin-butyl); 39589-98-5 (Dimethyl carbate); 66257-53-2 (Oxamate); 105726-67-8 (Methylneodecanamide); 119515-38-7 (Picaridin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (insect repellent; fiber-supported pest behavior-modifying compn.); 7783-06-4 (Hydrogen sulfide) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (mammal repellent; fiber-supported pest behavior-modifying compn.); 9010-98-4 Role: MOA (Modifier or additive use), USES (Uses) (neoprene rubber, fiber; support for pest behavior-modifying compn.)
Patent Application Country: Application: US
Priority Application Country: US
Priority Application Number: 2001-345349
Priority Application Date: 20011025 The invention provides fibrous pest deterrents that combine the useful properties of a phys. barrier in the form of a nonwoven fibrous matrix with a chem. deterrent such as a pesticide, behavior-modifying compd. or a pest repellent. The use of such fibrous pest deterrents protects plants, animals and structures in both agricultural and nonagricultural settings from damage inflicted by pests. Unlike traditional pesticides, the behavior-modifying compd., pesticide or chem. deterrent of the invention is adsorbed or attached to a fibrous matrix, and so it is not so readily dispersed into the environment. Hence, use of the fibrous pest deterrents can reduce the levels of pesticides that inadvertently contaminate nontarget areas and pollute water supplies. [on SciFinder (R)] A01N025-34. B32B027-04; B32B027-12. fiber/ supported/ pesticide/ compn

544. Holland, P. T., Boyd, A. J., and Malcolm, C. P (2000). Performance validation of a multi-residue method for 170 pesticides in kiwifruit. *Special Publication - Royal Society of Chemistry* 256: 29-40.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2000:786871
Chemical Abstracts Number: CAN 134:206753
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5

Document Type: Journal
Language: written in English.
Index Terms: Actinidia chinensis; High-resolution gas chromatography; Pesticides; Size-exclusion chromatography (performance validation of multi-residue method for 170 pesticides in kiwifruit)
CAS Registry Numbers: 50-29-3; 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 99-30-9 (Dichloran); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (HCB); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 133-06-2 (Captan); 133-07-3 (Folpet); 139-40-2 (Propazine); 141-66-2 (Dicrotophos); 148-79-8 (Thiabendazole); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbofenthion); 789-02-6 (o,p'-DDT); 886-50-0 (Terbutryn); 919-86-8 (Demeton-s-methyl); 950-37-8 (Methidathion); 959-98-8 (Endosulfan A); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1689-83-4 (Ioxynil); 1689-84-5 (Bromoxynil); 1897-45-6; 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2597-03-7 (Phenthoate); 2921-88-2 (Chlorpyrifos); 3424-82-6; 4824-78-6 (Bromophos ethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5598-13-0 (Chlorpyrifos methyl); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10552-74-6 (Nitrothal-isopropyl); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 15310-01-7 (Benodanil); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 18691-97-9 (Methabenzthiazuron); 19666-30-9 (Oxadiazon); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 25057-89-0 (Bentazone); 27314-13-2 (Norflurazon); 29232-93-7 (Pirimiphosmethyl); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan B); 33693-04-8 (Terbumeton); 34256-82-1 (Acetochlor); 34643-46-4 (Prothiophos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39300-45-3 (Dinocap); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazophos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 57018-04-9 (Tolclofos methyl); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 60168-88-9 (Fenarimol); 60207-31-0 (Azaconazole); 60207-90-1 (Propiconazole); 66246-88-6 (Penconazole); 67375-30-8; 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 71422-67-8 (Chlorfluazuron); 71626-11-4 (Benalaxyl); 76578-13-7 (Quizalofop-methyl); 77732-09-3 (Oxadixyl); 79241-46-6; 79622-59-6 (Fluazinam); 81777-89-1 (Clomazone); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 87674-68-8 (Dimethenamid); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 94361-06-5 (Cyproconazole); 107534-96-3 (Tebuconazole); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenoconazole); 121552-61-2 (Cyprodinil); 143390-89-0 (Kresoxim methyl) Role: ANT (Analyte), ANST (Analytical study) (performance validation of multi-residue method for 170 pesticides in kiwifruit); 497-19-8 (Sodium carbonate) Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (performance validation of multi-residue method for 170 pesticides in kiwifruit)
Citations: 1) Holland, P; Emerging Strategies for Pesticide Analysis 1992, 71

Citations: 2) Holland, P; J Assoc Off Anal Chem 1983, 66, 1003
Citations: 3) Roos, A; Anal Chim Acta 1987, 196, 95
Citations: 4) Ministry of Public Health, Welfare and Sport; Analytical Methods for Pesticide Residues in Foodstuffs. 6th Edition 1996
Citations: 5) US Environmental Protection Agency; Appendix B to 40CFR Part 136 - Definition and procedure for the determination of the method detection limit - Revision 1.11 1984 The method of A. H. Roos et al. (1987), in which size-exclusion chromatog. (SEC) cleanup and high-resoln. gas chromatog. (HRGC) are combined, was adapted to detn. pesticides in kiwifruit. Adding sodium carbonate during extn. reduces levels of acidic interferences and improves recoveries of some basic pesticides such as prochloraz. The SEC cleanup effectively and reproducibly removes lipids, chlorophylls and other high mol. wt. co-extractives that otherwise rapidly lead to reduced HRGC performance. Multi-residue methods such as this remain very dependant on rigid quality control and skilled analysts for their performance, particularly in the HRGC aspects which remain the weakest links. Therefore performance validation is essential to ensure that the method as applied is producing reliable data. Recovery data for surrogate stds. and for low level fortified samples are crucial in this respect. Data on precision and limits of detection for analytes, if gathered on a regular basis, are invaluable for objective validation and tracking the on-going performance of the method. [on SciFinder (R)] 0260-6291 kiwifruit/ pesticide/ detn/ gas/ chromatog

545. Holland, P. T. and McGhie, T. K (1983). Multiresidue method for determination of pesticides in kiwifruit, apples, and berryfruits. *Journal - Association of Official Analytical Chemists* 66: 1003-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1983:468909
Chemical Abstracts Number: CAN 99:68909
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Fungicides and Fungistats; Insecticides (detn. of, in fruit, gas-chromatog.); Boysenberry; Cyphomandra betacea (pesticides detn. in, by gas-chromatog.); Actinidia chinensis; Apple; Fruit (pesticides detn. in, gas-chromatog.)
CAS Registry Numbers: 50-29-3; 56-38-2; 58-89-9; 60-51-5; 60-57-1; 62-73-7; 63-25-2; 86-50-0; 115-29-7; 115-32-2; 121-75-5; 133-06-2; 133-07-3; 333-41-5; 470-90-6; 732-11-6; 1085-98-9; 2032-65-7; 2312-35-8; 2425-06-1; 2921-88-2; 29232-93-7; 30560-19-1; 33213-65-9; 34643-46-4; 36734-19-7; 38260-54-7; 39300-45-3; 41483-43-6; 43121-43-3; 50471-44-8; 52315-07-8; 52645-53-1 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in fruit, gas-chromatog.) A rapid multiresidue procedure for fruits, based on MeOH extn., is presented. Water and highly water-sol. coextractives are removed by partitioning the pesticides into PhMe. Carbon-cellulose-Florisil cleanup is performed before gas chromatog. on OV-225 with electron capture detection. A wide range of pesticides can be detd. to 0.1 mg/kg without concg. the ext. Gas chromatog. of the crude PhMe partition using SE-30 and an alkali flame ionization detector provides confirmatory data and allows detection of some carbamates. Dichlorvos [62-73-7], dimethoate [60-51-5], and acephate [30560-19-1] are detd. directly in the MeOH ext. by flame photometric detection. High recoveries were obtained for 4 organochlorine insecticides, 13 organophosphorus insecticides, 2 synthetic pyrethroids, two N-Me carbamates, and 10 fungicides. The method is economical of solvents, glassware, and time, and is recommended for routine surveillance of residue levels on fruit. [on SciFinder (R)] 0004-5756 fruit/ pesticide/ detn;/ gas/ chromatog/ pesticide

546. Holland, P. T., McGhie, T. K., and Malcolm, C. P (1984). Residual life of pesticides on kiwifruit. *Proceedings of the New Zealand Weed and Pest Control Conference* 37th: 136-41.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1985:2010
Chemical Abstracts Number: CAN 102:2010
Section Code: 5-6
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Actinidia chinensis (pesticide residues on); Pesticides (residues of, on kiwifruit)
CAS Registry Numbers: 62-73-7; 63-25-2; 133-06-2; 133-07-3; 470-90-6; 732-11-6; 2425-06-1; 2921-88-2; 24017-47-8; 29232-93-7; 38260-54-7; 50471-44-8; 52645-53-1 Role: BIOL (Biological study) (residues of, on kiwifruit) Pesticide decay was studied on kiwifruit (Actinidia chinensis). Residues on the fruit generally followed bimodal 1st-order decay patterns. Initial half-lives in days were: dichlorvos [62-73-7] 0.6-1, pirimiphos-methyl [29232-93-7] 1-2, etrimfos [38260-54-7] 7, captan [133-06-2] 12-21, permethrin [52645-53-1] 14-15, chlorpyrifos [2921-88-2] 8-15, carbaryl [63-25-2] 17, triazophos [24017-47-8] 22, folpet [133-07-3] 17-30, vinclozolin [50471-44-8] 30, chlorfenvinphos [470-90-6] 35, phosmet [732-11-6] 40, and captafol [2425-06-1] 20-48. After 1-3 half-lives, a marked redn. in decay rate occurred and low level residues of most pesticides were very persistent. Residues from applications made close to fruit set were generally less persistent initially than those from main season sprays. Low levels of captan were detectable at harvest, 5 mo following application. [on SciFinder (R)] 0370-2804
pesticide/ residue/ kiwifruit

547. Holland, Patrick T., McNaughton, Donald E., and Malcolm, Colin P (1994). Multiresidue analysis of pesticides in wines by solid-phase extraction. *Journal of AOAC International* 77: 79-86.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:189979
Chemical Abstracts Number: CAN 120:189979
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in wine by solid-phase extn.); Wine analysis (pesticide residues detn. in, by solid-phase extn.)
CAS Registry Numbers: 50-29-3 (p,p'-DDT); 56-38-2 (Parathion ethyl); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 82-68-8 (Quintozene); 86-50-0 (Azinphos methyl); 99-30-9 (Dichloran); 115-32-2 (Dicofol); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 133-06-2 (Captan); 133-07-3 (Folpet); 141-66-2 (Dicrotophos); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 300-76-5 (Naled); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-86-8 (Demeton-S-methyl); 950-37-8 (Methidathion); 959-98-8 (Endosulfan a); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1582-09-8 (Trifluralin); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2104-96-3 (Bromophos methyl); 2425-06-1 (Captafol); 2921-88-2 (Chlorpyrifos); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10552-74-6 (Nitrothal isopropyl); 13171-21-6 (Phosphamidon); 13457-18-6 (Pyrazophos); 15310-01-7 (Benodanil); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan b); 34643-46-4 (Prothiofos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39300-45-3 (Dinocap); 39515-41-8 (Fenpropathrin); 41483-43-6 (Bupirimate); 43121-43-3 (Triadimefon); 50471-44-8

(Vinclozolin); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 66230-04-4 (Fenvalerate a); 66246-88-6 (Penconazole); 66267-77-4 (Fenvalerate b); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69409-94-5 (Fluvalinate); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in wine by solid-phase extn.) A method is described for screening wine for 74 pesticide residues. Aliquots of wine (10 mL) are extd. with 500 mg C18-silica solid-phase extn. (SPE) columns after addn. of carbophenothion internal std. at 0.1 mg/L. The column is washed with 20% EtOH-H2O (4 mL), and pesticide residues are eluted with 1 mL EtOAc. The ext. is made up to 2 mL final vol. with isooctane for screening by gas-liq. chromatog. (GC) using a narrow-bore FSOT column (5% phenyl-95% methyl-silicone bonded phase) with effluent splitting to electron capture (ECD) and N-P detectors. A 2nd GC system, using a 50% phenyl-50% methyl-silicone FSOT column with effluent splitting to ECD and flame photometric detector (P mode), is used for confirmation. The SPE method was rapid, robust, and reproducible. Recovery of pesticides added at 0.2 mg/L were 70-110% for the majority of pesticides, with std. deviations (SDs) of 1-18%. Some highly polar pesticides gave low recoveries. At a fortification level of 1 mg/L in wine, 13 fungicides gave recoveries of 80-118%, with SDs of 2-14%. At 0.02 mg/L, some less stable pesticides exhibited enhanced recoveries due to the protective effects of coextractives during GC. Detection limits were 0.01-0.02 mg/L with no major interferences obsd. from a range of wines. The multiple GC column and detector combinations and the internal std. provided a high degree of assurance in the identification of residues in wine. [on SciFinder (R)] 1060-3271 wine/ pesticide/ residue/ detn

548. Holmstead, Roy L. and Casida, John E (1974). Chemical ionization mass spectrometry of organophosphorus insecticides. *Journal - Association of Official Analytical Chemists* 57: 1050-5. Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1975:42465
Chemical Abstracts Number: CAN 82:42465
Section Code: 22-2
Section Title: Physical Organic Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (chem. ionization mass spectra of); Mass spectra (chem. ionization, of insecticides)
CAS Registry Numbers: 56-38-2; 60-51-5; 62-73-7; 86-50-0; 121-75-5; 298-00-0; 298-02-2; 299-84-3; 300-76-5; 311-45-5; 333-41-5; 732-11-6; 786-19-6; 1113-02-6; 1634-78-2; 2104-64-5; 2588-03-6; 2588-04-7; 2588-05-8; 2588-06-9; 2600-69-3; 3735-33-9; 7173-84-4; 7786-34-7; 10265-92-6; 13171-21-6; 16662-85-4; 16662-86-5; 16662-87-6; 17297-40-4 Role: PRP (Properties) (chem. ionization mass spectrum of) The chem. ionization (CI) mass spectra of 15 important organophosphorus insecticides and 14 of their major metabolites are discussed in relation to the effect of chem. structure on fragmentation patterns. The fragments obtained with CI are sometimes quite different from those formed on electron impact and, in general, simpler spectra are obtained with CI. [on SciFinder (R)] 0004-5756 chem/ ionization/ mass/ spectroscopy;/ organophosphorus/ insecticide/ mass/ spectrum;/ phosphorus/ insecticide/ mass/ spectrum

549. Holstege, D. M., Scharberg, D. L., Richardson, E. R., and Moller, G. (1991). Multiresidue Screen for Organophosphorus Insecticides Using Gel Permeation Chromatography - Silica Gel Cleanup. *J.Assoc.Off.Anal.Chem.* 74: 394-399.
Chem Codes: Chemical of Concern: PTP,PPHD,MDT,IFP,FNF,FMP,EP,ACP,AZ,CPY,CMPH,DZ,DDVP,DMT,FNTH,MLN,MP,MVP,Naled,PRN,PRT,PHSL,PSM,TBO,DEM,DS,ETN Rejection Code: IN VITRO.

550. Holstege, Dirk M., Scharberg, David L., Richardson, Elizabeth R., and Moller, Gregory (1991). Multiresidue screen for organophosphorus insecticides using gel permeation chromatography - silica gel cleanup. *Journal - Association of Official Analytical Chemists* 74: 394-9.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1991:183943
Chemical Abstracts Number: CAN 114:183943
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Liver; Stomach content (organophosphorous insecticides detn. in bovine, by gel permeation chromatog.-gas chromatog.); Animal tissue; Plant analysis (organophosphorous insecticides detn. in, by gel permeation chromatog.-gas chromatog.); Insecticides (organophosphorus, detn. of, in animal and plant tissues by gel permeation chromatog.-gas chromatog.)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 78-34-2 (Dioxathion); 78-48-8 (DEF); 86-50-0 (Azinphos-methyl); 115-90-2 (Fensulfothion); 121-75-5 (Malathion); 141-66-2 (Dicrotophos); 150-50-5 (Merphos); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 299-86-5 (Crufomate); 300-76-5 (Naled); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 6923-22-4 (Monocrotophos); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 41198-08-7 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in animal and plant tissues by gel permeation chromatog.-gas chromatog.) A multiresidue screen for quant. detn. of 43 organophosphorus Insecticides in 5 g of plant and animal tissues is described. The organophosphorus insecticides are extd. with methanol-dichloromethane (10 + 90, vol./vol.) and cleaned up using automated gel permeation chromatog. with hexane-Et acetate (60 + 40) eluant and in-line silica gel minicolumns. Concd. exts. are anal. by gas chromatog. with flame photometric detection. The method recovers 43 organophosphorus insecticides in the range of 72-115%. Anal. of fortified bovine liver shows an av. 95.9% recovery at the 0.05 mg/g level and 93% at the 0.5 mg/g level. Anal. of fortified bovine rumen content shows an av. 98% recovery at the 0.1 mg/g level and 98.7% at the 1 mg/g level. Method detection limits ranged from 0.01 to 0.05 mg/g for the compds. studied using a nominal 5-g sample. [on SciFinder (R)] 0004-5756 phospho/ insecticide/ detn/ gel/ permeation/ chromatog;/ plant/ tissue/ organophosphorus/ insecticide/ detn;/ animal/ tissue/ organophosphorus/ insecticide/ detn

551. Holstege, Dirk M., Scharberg, David L., Tor, Elizabeth R., Hart, Laura C., and Galey, Francis D (1994). A rapid multiresidue screen for organophosphorus, organochlorine, and N-methyl carbamate insecticides in plant and animal tissues. *Journal of AOAC International* 77: 1263-74.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1994:673935
Chemical Abstracts Number: CAN 121:273935
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal

Language: written in English.
Index Terms: Chromatography (gas chromatog. for anal. of insecticides in plant and animal tissue); Animal tissue; Insecticides; Plant analysis (insecticides anal. in plant and animal tissue); Chromatography; Liver; Tomato (liq. chromatog. for anal. of insecticides in plant and animal tissue); Hay (alfalfa, liq. chromatog. for anal. of insecticides in plant and animal tissue); Organic compounds Role: ANT (Analyte), ANST (Analytical study) (chloro, insecticides; organochlorine insecticides anal. in plant and animal tissue); Alfalfa (hay, liq. chromatog. for anal. of insecticides in plant and animal tissue); Organic compounds Role: ANT (Analyte), ANST (Analytical study) (phosphorus-contg., insecticides; organophosphorus insecticides anal. in plant and animal tissue)
CAS Registry Numbers: 50-29-3 (p,p'-Ddt); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (p,p'-Methoxychlor); 72-54-8 (p,p'-Ddd); 72-55-9 (p,p'-Dde); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8 (Def); 86-50-0 (Azinphos methyl); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 126-75-0 (Demeton-s); 141-66-2 (Dicrotophos); 150-50-5 (Merphos); 298-00-0 (Methyl parathion); 298-01-1; 298-02-2 (Phorate); 298-03-3 (Demeton-o); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 299-86-5 (Crufomate); 300-76-5 (Naled); 309-00-2 (Aldrin); 315-18-4 (Mexacarbate); 319-84-6 (a-Bhc); 333-41-5 (Diazinon); 338-45-4; 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1563-66-2 (Carbofuran); 1646-88-4 (Aldicarb sulfone); 2032-65-7 (Methiocarb); 2104-64-5 (Epn); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2921-88-2 (Chlorpyrifos); 5566-34-7 (g-Chlordane); 6923-22-4 (Monocrotophos); 7700-17-6 (Crotoxyphos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon e); 13194-48-4 (Ethoprop); 16655-82-6 (3-Hydroxycarbofuran); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23135-22-0 (Oxamyl); 23783-98-4; 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 33213-65-9 (Endosulfan II); 41198-08-7 (Profenofos) Role: ANT (Analyte), ANST (Analytical study) (anal. of insecticides in plant and animal tissue); 463-77-4D (Carbamic acid) Role: ANT (Analyte), ANST (Analytical study) (insecticides; nitromethyl carbamate insecticides anal. in plant and animal tissue) A multiresidue screen for the quant. detn. of 43 organophosphorus, 17 organochlorine, and 11 N-Me carbamate insecticides in 10 g of plant or animal tissues is described. The insecticides are extd. with 5% ethanol in Et acetate (vol./vol.). Samples with high lipid content are cleaned up by automated gel permeation chromatog. with a 30% Et acetate in hexane (vol./vol.) eluant and in-line silica gel mini columns. Highly pigmented samples are cleaned up with class-specific solid-phase extn. columns. The concd. exts. are anal. by selective detection with gas chromatog. or liq. chromatog. Recovery of 71 insecticides ranged from 77 to 113%. Anal. of fortified bovine liver resulted in an av. recovery of 96% at the 0.5 to 0.05 mg/g level. Anal. of fortified alfalfa hay resulted in a mean recovery of 94% at the 0.06 to 0.5 mg/g level, and anal. of fortified fresh tomatoes resulted in an av. recovery of 97% at the 0.06 to 0.5 mg/g level. Method detection limits ranged from 0.02 to 0.5 mg/g for the compds. studied with a nominal 10 g sample. [on SciFinder (R)] 1060-3271 organophosphorus/ organochlorine/ nitromethyl/ carbamate/ tissue/ analysis;/ plant/ tissue/ insecticide/ analysis;/ animal/ tissues/ insecticide/ analysis

552. Hong, S. P. , Oh, I. C., and Ronse De Craene, L. P. (2005). Pollen Morphology of the Genera Polygonum S. Str. And Polygonella (Polygoneae: Polygonaceae). *Plant Systematics and Evolution, 254 (1-2) pp. 13-30, 2005*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0378-2697
Descriptors: Polygonum s. str
Descriptors: Polygonella
Descriptors: Polygonaceae
Descriptors: Pollen morphology

Descriptors: Systematics
Abstract: The pollen of 30 taxa (27 species, one subspecies and two varieties) in two genera, viz Polygonum s. str. and Polygonella was investigated with LM and SEM, and some selected taxa with TEM. In all genera investigated the pollen is prolate to spheroidal, and the aperture is mostly tricolporate, rarely panto-hexacolporate (especially Polygonum section Polygonum). The exine sculpturing pattern is the most variable feature. Three types of exine can be recognized. Type 1 (Avicularia-Type, sensu Hedberg) - All species of section Polygonum and section Tephis share the smooth tectate exine with spinules, sometimes the surface is more or less rough (Polygonum afromontanum in section Tephis). Type 2 (Pseudomollia-Type, sensu Hong) - Pollen of Polygonum molliaeforme (section Pseudomollia) has the exine, which is verrucose on both poles and nearby the mesocolpium, and mostly psilate around the ectoaperture. Type 3 (Duravia-Type, sensu Hedberg) - Pollen grains of Polygonum section Duravia and Polygonella have the exine which is semitectate-reticulate at the mesocolpium and the poles, and rugulate/reticulate or sometimes foveolate with microspinules around the ectoapertures. The pollen grains in four taxa (viz Polygonum section Pseudomollia, P. section Duravia and genus Polygonella) have a well-marked dimorphism of the ektexine, which is considered to be a synapomorphic condition. The differences of pollen grain between the genus Polygonella and Polygonum section Duravia are almost non existent and clearly interrelated. It is therefore postulated that the similarity in pollen of both taxa is not the result of convergency, but is interpreted as a homology. It is noteworthy that the pollen of Polygonum molliaeforme (section Pseudomollia) appears as intermediate between the Avicularia-type and the Duravia-type, and is well supported the value of separated section for its own. Additionally, in TEM, some exine ultrastructures (e.g. columellae, foot layer, endexine) appear to be valuable characters for comparison between/ among taxa. The systematic potentialities of the pollen data of the studied taxa at various systematic levels are also discussed. (copyright) Springer-Verlag 2005.
46 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Austria
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

553. Hongve, D. (1999). Production of Dissolved Organic Carbon in Forested Catchments. *Journal of hydrology (amsterdam)* 224: 91-99.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Leaf litter is an important source of natural dissolved organic carbon (DOC) in forested catchments. Rainwater percolating through fresh litter obtains higher concentrations of DOC and colour than from older forest floor material and organic soils. Chemical characterisation using DOC fractionation and tests of biodegradability show that natural litter percolates contain significant fractions of coloured and highly refractory hydrophobic acids (humic substances) and variable fractions of biodegradable compounds. Deciduous leaf litter imparts high DOC concentrations in the autumn, while coniferous litter and organic soils release DOC more evenly. Leaching from fresh deciduous litter may explain the seasonality in the concentration of DOC in discharge from forested catchments. Countrywide Norwegian data show very poor relationships between occurrences of mires in the catchment of lakes and water colour. High concentrations of DOC may occur in lakes where the catchment has a high proportion of surface runoff due to thin or impermeable soils or swamp areas.
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: METHODS
MESH HEADINGS: PLANTS

MESH HEADINGS: SOIL
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Soil Science-General
LANGUAGE: eng

554. Hopper, Marvin L (1982). Automated gel permeation system for rapid separation of industrial chemicals and organophosphate and chlorinated pesticides from fats. *Journal of Agricultural and Food Chemistry* 30: 1038-41.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1982:580269
Chemical Abstracts Number: CAN 97:180269
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (sepn. of, from fatty foods by gel chromatog.); Milk analysis (toxic chem. sepn. from, by gel chromatog.); Oils Role: BIOL (Biological study) (toxic chem. sepn. from, by gel chromatog.); Chromatography (toxic chems. sepn. from fats by); Food analysis (toxic chems. sepn. from fatty, by gel chromatog.); Fats Role: ANST (Analytical study) (toxic chems. sepn. from, of food by gel chromatog.); Milk substitutes (human, toxic chem. sepn. from, by gel chromatog.); Chemicals (toxic, sepn. of, from fatty foods by gel chromatog.)
CAS Registry Numbers: 50-29-3; 55-38-9; 56-38-2; 58-89-9; 60-51-5; 60-57-1; 72-20-8; 72-43-5; 72-54-8; 72-55-9; 76-44-8; 82-68-8; 86-50-0; 87-61-6; 99-30-9; 101-21-3; 115-32-2; 118-74-1; 121-75-5; 298-00-0; 298-02-2; 309-00-2; 311-45-5; 319-84-6; 333-41-5; 527-20-8; 563-12-2; 608-93-5; 634-66-2; 634-90-2; 732-11-6; 786-19-6; 944-22-9; 950-37-8; 959-98-8; 1024-57-3; 1031-07-8; 1113-02-6; 1634-78-2; 1825-19-0; 1825-21-4; 2310-17-0; 2588-04-7; 2597-03-7; 2921-88-2; 3389-71-7; 5103-71-9; 5103-74-2; 6923-22-4; 6936-40-9; 7786-34-7; 8065-48-3; 10265-92-6; 11097-69-1; 13071-79-9; 21609-90-5; 24017-47-8; 27304-13-8; 28804-67-3; 30560-19-1; 33213-65-9; 39765-80-5; 50471-44-8; 60238-56-4 Role: BIOL (Biological study) (sepn. of, from fatty foods by gel chromatog.) Sixty-six industrial chems. and organophosphate and chlorinated pesticides were sepd. from food fats (e.g., butterfat, vegetable oil) with a gel permeation chromatograph equipped with 30 cm * 2.5 cm Bio-Beads SX-3 gel column and with elution by CH2Cl2-hexane (1:1) at 5.0 mL/min and 8-11 psig. With elution vol. of 60-140 mL, gas-chromatog. studies showed recovery was 91-107%. The fraction contg. the compds. has <1% fat. Recovery of 13 pesticides added to butterfat and 11 pesticides added to an Fe-fortified infant formula was 96-106 and 82-103%, resp. [on SciFinder (R)] 0021-8561 toxic/ chem/ sepn/ fatty/ food;/ fat/ toxic/ chem/ sepn;/ pesticide/ sepn/ fat;/ gel/ chromatog/ toxic/ chem

555. Hopper, Marvin L (1997). Extraction and cleanup of organochlorine and organophosphorus pesticide residues in fats by supercritical fluid techniques. *Journal of AOAC International* 80: 639-646.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:348786
Chemical Abstracts Number: CAN 127:94322
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Butter; Extraction; Food analysis; Food contamination; Supercritical fluid

chromatography (extn. and cleanup of organochlorine and organophosphorus pesticide residues in fats by supercrit. fluid techniques); Canola oil; Corn oil; Fats and Glyceridic oils; Olive oil; Soybean oil Role: FFD (Food or feed use), BIOL (Biological study), USES (Uses) (extn. and cleanup of organochlorine and organophosphorus pesticide residues in fats by supercrit. fluid techniques); Meat (lamb, chop; extn. and cleanup of organochlorine and organophosphorus pesticide residues in fats by supercrit. fluid techniques); Pesticides (organochlorine and organophosphorus; extn. and cleanup of organochlorine and organophosphorus pesticide residues in fats by supercrit. fluid techniques); Fish (stick; extn. and cleanup of organochlorine and organophosphorus pesticide residues in fats by supercrit. fluid techniques)
CAS Registry Numbers: 50-29-3 (DDT); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (TDE); 72-55-9 (DDE); 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 99-30-9 (Dicloran); 115-32-2 (Dicofol); 115-86-6 (Triphenyl phosphate); 115-88-8 (Octyl diphenyl phosphate); 115-96-8 (Tris(2-chloroethyl) phosphate); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 126-73-8 (Tributyl phosphate); 141-66-2 (Dicrotophos); 298-00-0 (Parathion-methyl); 298-01-1 (a-Mevinphos); 319-84-6 (a-BHC); 333-41-5 (Diazinon); 338-45-4 (b-Mevinphos); 527-20-8 (Pentachloroaniline); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 1806-54-8 (Trioctyl phosphate); 1825-19-0 (Pentachlorophenyl methyl sulfide); 1825-21-4 (Pentachloroanisole); 1861-32-1 (DCPA); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 2496-91-5; 2588-04-7 (Phorate sulfone); 2921-88-2 (Chlorpyrifos); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7700-17-6 (Crotoxyphos); 10265-92-6 (Methamidophos); 11097-69-1 (Aroclor 1254); 22248-79-9 (Tetrachlorvinphos); 27304-13-8 (Octachlor epoxide); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 33213-65-9 (Endosulfan II); 39765-80-5 (trans-Nonachlor); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin) Role: BOC (Biological occurrence), BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (extn. and cleanup of organochlorine and organophosphorus pesticide residues in fats by supercrit. fluid techniques)
Citations: 1) U S Food And Drug Administration; J AOAC Int 1992, 75, 136A
Citations: 2) U S Food And Drug Administration Sec 304; Pesticide Analytical Manual, 3rd Ed 1994, I(E1, E4, and E5), 304
Citations: 3) U S Food And Drug Administration Sec 304; Pesticide Analytical Manual, 3rd Ed 1994, I(C5), 304
Citations: 4) U S Food And Drug Administration Sec 304; Pesticide Analytical Manual, 3rd Ed 1994, I(C6), 304
Citations: 5) Hopper, M; J AOAC Int 1995, 78, 1072
Citations: 6) King, J; J Chromatogr Sci 1993, 31, 1
Citations: 7) France, J; J Agric Food Chem 1991, 39, 1871
Citations: 8) Raynie, D; J Chromatog 1994, 32, 298
Citations: 9) King, J; Anal Chem 1995, 67, 2288
Citations: 10) U S Food And Drug Administration Sec 204; Pesticide Analytical Manual, 3rd Ed 1994, I, 204
Citations: 11) Thompson, P; J High Resolut Chromatogr Chromatogr Commun 1993, 16, 713
Citations: 12) Thompson, P; J High Resolut Chromatogr Chromatogr Commun 1994, 17, 759
Citations: 13) Hopper, M; J Assoc Off Anal Chem 1991, 74, 661
Citations: 14) Young, S; J AOAC Int 1996, 79, 976
Citations: 15) Lehotay, S; J AOAC Int 1995, 78, 831 A supercrit. fluid extn. and cleanup procedure was developed for sepg. organochlorine and organophosphorus pesticides from fats. Supercrit. carbon dioxide modified with 3% (vol./vol.) acetonitrile was used to ext. the pesticides at 60 Deg C and sep. the pesticides from the fats at 4000 psi and 95 Deg C on an in-line C1 silica-based column. The extn. and cleanup procedure gave good recoveries for 43 of 62 nonpolar to moderately polar organochlorine and organophosphorus pesticides from fats, whereas 49 were recovered through conventional Florisil column cleanup before quantitation. This procedure can ext. and clean up pesticide residues from 0.65 g animal-based fat and 1.0 g oils. Co-eluted

residues in the pesticide fraction ranged from 2.5 mg for butterfat to 0.8 mg for corn oil. Results for samples analyzed with this integrated extn. cleanup procedure were reproducible and comparable with results obtained with the current Total Diet Study methodol. [on SciFinder (R)] 1060-3271 pesticide/ extn/ cleanup/ fat/ supercrit/ fluid

556. Hopper, Marvin L (1988). Improved method for partition of organophosphate pesticide residues on a solid phase partition column. *Journal - Association of Official Analytical Chemists* 71: 731-4.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1988:569037
Chemical Abstracts Number: CAN 109:169037
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Beverages (orange drink, organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for); Food analysis (organophosphate pesticides detn. in, by gas chromatog., extn. and partitioning for); Potato (organophosphorus pesticides detn. in baked, by gas chromatog., extn. and partitioning for); Banana; Bean; Beet; Broccoli; Cabbage; Carrot; Cauliflower; Celery; Corn; Cowpea; Grape; Grape juice; Grapefruit; Kale; Lettuce; Oat; Pea; Peach; Pear; Pineapple; Plum; Radish; Rice; Spinach; Sweet potato; Tomato; Tomato juice; Tomato paste, puree, and sauce; Wine analysis (organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for); Pesticides (organophosphorus, detn. of, in foods by gas chromatog., extn. and partitioning for); Tea products (beverages, organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for); Flours and Meals (grits, organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for); Capsicum annuum annuum (grossum group, organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for); Prune (juice, organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for); Oat (meal, organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for); Bean (navy, organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for); Bean (pinto, organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for); Apple (sauce, organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for); Bean (P. limensis, organophosphorus pesticides detn. in, by gas chromatog., extn. and partitioning for)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 78-51-3 (Tris(2-butoxyethyl phosphate); 86-50-0 (Azinphos-methyl); 115-88-8 (Octyldiphenyl phosphate); 121-75-5 (Malathion); 126-73-8 (Tri-N-butyl phosphate); 126-75-0 (Demeton-S); 141-66-2 (Dicrotophos); 298-01-1; 333-41-5; 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1806-54-8 (Trioctyl phosphate); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 2496-91-5; 2921-88-2 (Chlorpyrifos); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 22248-79-9 (Tetrachlorvinphos); 22756-17-8; 24017-47-8 (Triazophos); 30560-19-1 (Acephate) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in food by gas chromatog., extn. and partitioning for) A specially modified form of diatomaceous earth was used to develop a solid phase partition column which, with methylene chloride, is used to ext. organophosphate pesticides from an aq. acetone filtrate. This column is a replacement for the time-consuming and labor intensive separatory-funnel partition of the Luke procedure. Recoveries from the column are quant. and reproducible for industrial phosphates and a wide range of polar and nonpolar organophosphate pesticides. The column is reusable and convenient and results in a 35-45% savings in time over separatory funnel partition. Neither sulfate columns nor separatory funnels are required, and no emulsions are formed. [on SciFinder (R)] 0004-5756 gas/ chromatog/ organophosphate/ pesticide/ food

557. Horne, Irene, Sutherland, Tara, Harcourt, Rebecca, Russell, Robyn, and Oakeshott, John (20021121).

Cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation.   72 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Database: CAPLUS
Accession Number: AN 2002:888921
Chemical Abstracts Number: CAN 137:381691
Section Code: 7-2
Section Title: Enzymes
CA Section Cross-References: 3, 9, 10, 60, 61
Coden: PIXXD2
Index Terms: Proteins Role: BPN (Biosynthetic preparation), BUU (Biological use, unclassified), NUU (Other use, unclassified), BIOL (Biological study), PREP (Preparation), USES (Uses) (MBP (maltose-binding protein), fusion protein contg. phosphotriesterase and; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Soil reclamation (biol.; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Remediation (bioremediation; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Agrobacterium; Agrobacterium tumefaciens; DNA sequences; Enzyme kinetics; Michaelis constant; Molecular cloning; Mutagenesis; Plasmid vectors; Protein sequences; Viral vectors (cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Cations (divalent, organophosphate hydrolysis in presence of; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Biosensors (enzymic, phosphotriesterase-contg., for organophosphate detection; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Hydrolysis (enzymic; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Water pollution (hydrolysis of organophosphate in water; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Biological materials; Soil pollution (hydrolysis of organophosphate in; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Porous materials (immobilized phosphotriesterase support; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Plastic foams Role: NUU (Other use, unclassified), USES (Uses) (immobilized phosphotriesterase support; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Enzymes Role: CAT (Catalyst use), PNU (Preparation, unclassified), PREP (Preparation), USES (Uses) (immobilized, polymeric sponge or foam contg. immobilized phosphotriesterase; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Root (of transgenic plant, phosphotriesterase prodn. in; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Gene Role: BSU (Biological study, unclassified), BUU (Biological use, unclassified), PRP (Properties), BIOL (Biological study), USES (Uses) (opdA; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Polyurethanes Role: NUU (Other use, unclassified), USES (Uses) (organophosphate phosphotriesterase immobilized on; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Microorganism (organophosphate-hydrolyzing, screening of; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation);

Enzymes Role: ANT (Analyte), ANST (Analytical study) (organophosphate-hydrolyzing, screening of; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Pesticides (organophosphorus; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Fusion proteins Role: BPN (Biosynthetic preparation), BUU (Biological use, unclassified), NUU (Other use, unclassified), BIOL (Biological study), PREP (Preparation), USES (Uses) (phosphotriesterase-contg.; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Transgene Role: BPN (Biosynthetic preparation), BUU (Biological use, unclassified), BIOL (Biological study), PREP (Preparation), USES (Uses) (plant, phosphotriesterase-producing; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Fermentation (protein; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Fluorescent indicators (screening of organophosphate-hydrolyzing agents; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); Embryophyta; Plants (transgenic, phosphotriesterase-producing; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation)
CAS Registry Numbers: 476219-13-3DP; 476219-14-4DP; 476219-15-5DP; 476219-16-6DP Role: ARG (Analytical reagent use), BPN (Biosynthetic preparation), BSU (Biological study, unclassified), CAT (Catalyst use), PRP (Properties), ANST (Analytical study), BIOL (Biological study), PREP (Preparation), USES (Uses) (amino acid sequence; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); 9047-01-2P (Phosphotriesterase) Role: ARG (Analytical reagent use), BPN (Biosynthetic preparation), BSU (Biological study, unclassified), CAT (Catalyst use), PRP (Properties), ANST (Analytical study), BIOL (Biological study), PREP (Preparation), USES (Uses) (cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); 7440-44-0 (Carbon) Role: NUU (Other use, unclassified), USES (Uses) (foam or sponge contg. immobilized phosphotriesterase and embedded carbon; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); 55-38-9 (Fenthion); 55-91-4 (DFP); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 311-45-5 (Paraoxon); 321-54-0 (Coroxon); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 1634-78-2 (Malaoxon); 2921-88-2 (Chlorpyrifos); 470689-09-9 Role: BSU (Biological study, unclassified), BIOL (Biological study) (hydrolysis by phosphotriesterase; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); 476219-19-9DP; 476219-20-2DP Role: BPN (Biosynthetic preparation), BSU (Biological study, unclassified), BUU (Biological use, unclassified), PRP (Properties), BIOL (Biological study), PREP (Preparation), USES (Uses) (nucleotide sequence; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); 476219-17-7D; 476219-18-8D Role: BSU (Biological study, unclassified), BUU (Biological use, unclassified), PRP (Properties), BIOL (Biological study), USES (Uses) (nucleotide sequence; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); 7440-66-6 (Zinc) Role: BSU (Biological study, unclassified), NUU (Other use, unclassified), BIOL (Biological study), USES (Uses) (organophosphate hydrolysis in presence of; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); 117698-12-1 (Organophosphate hydrolase) Role: BSU (Biological study, unclassified), BIOL (Biological study) (substrate specificity of; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); 476222-93-2; 476222-94-3; 476222-95-4; 476222-96-5; 476222-97-6; 476222-98-7; 476222-99-8; 476223-00-4 Role: PRP (Properties) (unclaimed nucleotide sequence;

cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation); 476223-01-5 Role: PRP (Properties) (unclaimed protein sequence; cloning, specificity, mutagenesis and sequence of organophosphate phosphotriesterase from Agrobacterium radiobacter P230 and its uses in bioremediation)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: AU
Priority Application Number: 2001-5023
Priority Application Date: 20010515
Citations: Prodigene Inc; WO 9953037 A2 1999
Citations: Amgen Inc; WO 9002177 A1 1990
Citations: Benning, M; J BIOL CHEM 2000, 275(39), 30556 The present invention provides enzymes capable of hydrolyzing organophosphate (OP) mols. In particular, the invention provides a phosphotriesterase enzyme identified from an Agrobacterium radiobacter strain isolated from soil that hydrolyzes organophosphorous pesticides, and the gene opdA encoding that enzyme. The nucleotide sequence of the gene opdA and the amino acid sequence of the encoded phosphotriesterase are provided. The invention also provides mutants of the identified phosphotriesterase enzyme which have altered substrate specificity. The use of these enzymes in bioremediation strategies is also provided. [on SciFinder (R)] C12N009-14. C07K014-195.
Agrobacterium/ gene/ opdA/ organophosphate/ phosphotriesterase/ sequence/ bioremediation;/ organophosphorous/ pesticide/ hydrolysis/ bioremediation/ phosphotriesterase/ mutagenesis/ Agrobacterium

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Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

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Database: CAPLUS
Accession Number: AN 2002:520456
Chemical Abstracts Number: CAN 137:305508
Section Code: 3-3
Section Title: Biochemical Genetics
CA Section Cross-References: 5, 7, 10
Document Type: Journal
Language: written in English.
Index Terms: Remediation (bioremediation; identification and sequence of an organophosphate degrdn. gene opdA in Agrobacterium radiobacter P230 in relation to); Agrobacterium tumefaciens (identification and sequence of an organophosphate degrdn. gene opdA in Agrobacterium radiobacter P230); Protein sequences (of organophosphate degrdn. enzyme OpdA in Agrobacterium radiobacter P230); DNA sequences (of organophosphate degrdn. gene opdA in Agrobacterium radiobacter P230); Enzyme kinetics; Michaelis constant (of organophosphate hydrolase encoded by gene opdA in Agrobacterium radiobacter P230); Gene Role: BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study) (opdA; identification and sequence of an organophosphate degrdn. gene opdA in Agrobacterium radiobacter P230); Insecticides (organophosphate; identification of an organophosphate degrdn. gene opdA in Agrobacterium radiobacter P230 in relation to bioremediation of)

CAS Registry Numbers: 469927-82-0 Role: BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study) (amino acid sequence; identification and sequence of an organophosphate degrdn. gene opdA in Agrobacterium radiobacter P230); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 298-00-0 (Parathion-methyl); 311-45-5 (Paraoxon); 321-54-0 (Coroxon); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 470689-09-9 Role: BSU (Biological study, unclassified), BIOL (Biological study) (as substrate for organophosphate hydrolase encoded by gene opdA in Agrobacterium radiobacter P230); 117698-12-1 (Organophosphate hydrolase) Role: BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study) (identification and sequence of an organophosphate degrdn. gene opdA in Agrobacterium radiobacter P230); 352261-52-0 (GenBank AY043245) Role: BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study) (nucleotide sequence; identification and sequence of an organophosphate degrdn. gene opdA in Agrobacterium radiobacter P230)
Citations: 1) Blattner, F; Science 1997, 277, 1453
Citations: 2) Bonnett, T; FEMS Microbiol Lett 1995, 133, 163
Citations: 3) Bowen, A; Plasmids in bacteria 1985, 105
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Citations: 6) Caldwell, S; Biochemistry 1991, 30, 7438
Citations: 7) Campbell, P; Insect Biochem Mol Biol 1998, 28, 139
Citations: 8) Chaudhry, G; Appl Environ Microbiol 1988, 54, 288
Citations: 9) Chen-Goodspeed, M; Biochemistry 2001, 40, 1325
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Citations: 11) Dave, K; Chem-Biol Interact 1993, 87, 55
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Citations: 15) Gill, S; Anal Biochem 1989, 182, 319
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Citations: 24a) Mulbry, W; Gene 1992, 121, 149
Citations: 25) Mulbry, W; Plasmid 1987, 18, 173
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Citations: 42) Tsuda, M; Mol Gen Genet 1987, 210, 270
Citations: 43) Vanhooke, J; Biochemistry 1996, 35, 6020

Citations: 44) Zimmerer, R; J Bacteriol 1966, 92, 746 The authors have isolated a bacterial strain, Agrobacterium radiobacter P230, which can hydrolyze a wide range of organophosphate (OP) insecticides. A gene encoding a protein involved in OP hydrolysis was cloned from A. radiobacter P230 and sequenced. This gene (called opdA) had sequence similarity to opd, a gene previously shown to encode an OP-hydrolyzing enzyme in Flavobacterium sp. strain ATCC 27551 and Brevundimonas diminuta MG. Insertional mutation of the opdA gene produced a strain lacking the ability to hydrolyze OPs, suggesting that this is the only gene encoding an OP-hydrolyzing enzyme in A. radiobacter P230. The OPH and OpdA proteins, encoded by opd and opdA, resp., were overexpressed and purified as maltose-binding proteins, and the maltose-binding protein moiety was cleaved and removed. Neither protein was able to hydrolyze the aliph. OP malathion. The kinetics of the two proteins for di-Et OPs were comparable. For di-Me OPs, OpdA had a higher kcat than OPH. It was also capable of hydrolyzing the di-Me OPs phosmet and fenthion, which were not hydrolyzed at detectable levels by OPH. [on SciFinder (R)] 0099-2240
organophosphate/ degrdn/ enzyme/ gene/ opdA/ sequence/ cloning/ Agrobacterium;/ insecticide/ organophosphate/ degrdn/ enzyme/ gene/ opdA/ Agrobacterium

559. Horwitz, William and Wood, Roger (2000). Relationship of (known) control values to (unknown) test values in proficiency studies of pesticide residues. *Journal of AOAC International* 83: 399-406.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2000:235334
Chemical Abstracts Number: CAN 132:292886
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Grape (puree; matrix in relationship studies of known control values to unknown test values in proficiency studies of pesticide residues); Food analysis; Pesticides; Wine analysis (relationship studies of known control values to unknown test values in proficiency studies of pesticide residues)
CAS Registry Numbers: 148-79-8 (Thiabendazole); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 2312-35-8 (Propargite); 2921-88-2 (Chlorpyriphos); 6923-22-4 (Monocrotophos); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 32809-16-8 (Procymidone); 36734-19-7 (Iprodione); 50471-44-8 (Vinclozolin); 82657-04-3 (Bifenthrin); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), ANST (Analytical study) (relationship studies of known control values to unknown test values in proficiency studies of pesticide residues)
Citations: 1) Horwitz, W; Pure Appl Chem 1994, 66, 1903
Citations: 2) Horwitz, W; J Assoc Off Anal Chem 1980, 63, 1344
Citations: 3) Albert, R; Anal Chem 1997, 69, 789
Citations: 4) Thompson, M; J AOAC Int 1997, 80, 676
Citations: 5) AOAC International; Inside Laboratory Management 1997, 31
Citations: 6) FAPAS Secretariat; Inside Laboratory Management 1997, 33
Citations: 7) Horwitz, W; Pure Appl Chem 1995, 67, 331
Citations: 8) Horwitz, W; J AOAC Int 1998, 81, 1257
Citations: 9) Anonymous; J Assoc Off Anal Chem 1989, 72, 694
Citations: 10) Anonymous; J AOAC Int 1995, 78, 143A
Citations: 11) Solsky, J; Questionable Practices in the Laboratory, 14th Annual Waste Testing & Quality Assurance Symposium 1998 Proficiency studies have been suggested as an alternative source of information for evaluating method performance characteristics when results from interlab. method performance studies conforming to internationally recognized protocols are not available. To explore this possibility, results were examd. from ongoing proficiency studies of pesticide residue analyses in celery, carrot, and grape purees, and in wine. Statistical performance parameters were calcd. from 18 data sets analyzed as unknowns by about 60 analysts for 12

analytes in the 25-1000 mg/kg range, and from presumably parallel control (spike) analyses conducted by about half of the participants. Recovery of known, independent control addns. by the participant did not correlate with the recoveries detd. as unknowns in the exercise. The data suggest that censoring or truncating of control data has occurred. The question of substitution of proficiency data for method performance data cannot be answered until the problem of unbiased reporting of control data is resolved. [on SciFinder (R)] 1060-3271 proficiency/ studies/ pesticide/ residue/ analysis/ food

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Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

A new expression for a geometric factor for ellipsoid shapes is developed by applying semi-analytical solutions of phase-change problems with convective cooling at the surface. Testing against finite element predictions for prolate and oblate spheroids showed that the new formula is more accurate than any alternative shape factor for practical ranges of conditions. By use of a model ellipsoid defined as having the same volume, characteristics dimension and smallest orthogonal cross-sectional area as the actual shape in conjunction with the proposed shape factor, published experimental freezing and thawing times of three-dimensional irregular shapes are more accurately predicted that by any other shape factor. freezing times/ thawing times/ mathematical model/ temps de congelation/ entreposage d'aliments/ modele mathematique
http://www.sciencedirect.com/science/article/B6V4R-481DMMD-67/2/6cf01bfe09b807a12adb05d9bf3b87e5

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1991:606339
Chemical Abstracts Number: CAN 115:206339
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in fruits and vegetables by gas chromatog. and HPLC); Chromatography (of pesticides contg. chlorine or phosphorus); Coriander (pesticides detn. in leaves of, by gas chromatog. and HPLC); Apple; Asparagus; Avocado; Bean; Broccoli; Cabbage; Capsicum annuum; Carrot; Cauliflower; Celery; Corn; Cucumber; Eggplant; Fruit; Grape; Lemon; Lettuce; Lime; Mango; Melon; Mushroom; Nectarine; Onion; Orange; Pea; Peach; Pear; Plum; Potato; Radish; Strawberry; Tomato; Turnip; Vegetable; Watermelon; Yam (pesticides detn. in, by gas chromatog. and HPLC); Melon (cantaloupe, pesticides detn. in, by gas chromatog. and HPLC); Vegetable (green, pesticides detn. in, by gas chromatog. and HPLC); Capsicum annuum annuum (grossum group, pesticides detn. in, by gas chromatog. and HPLC); Chromatography (high-performance, of pesticide carbamates); Cucurbita (squash, pesticides detn. in, by gas chromatog. and HPLC)
CAS Registry Numbers: 63-25-2; 114-26-1 (Propoxur); 116-06-3 (Aldicarb); 1563-66-2 (Carbofuran); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 2032-65-7; 16752-77-5 (Methomyl) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in fruits and vegetables by HPLC); 50-29-3 (4,4'-DDT); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7; 72-20-8 (Endrin); 72-43-5; 72-54-8 (4,4'-DDD); 72-55-9 (4,4'-DDE); 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8; 82-68-8 (PCNB); 86-50-0 (Azinphos-methyl); 95-

06-7 (Vegadex); 99-30-9 (Dichloran); 101-05-3 (Dyrene); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-80-6 (Dichlone); 121-75-5; 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 139-40-2 (Propazine); 141-66-2 (Dicrotophos); 297-97-2 (Thionazin); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 300-76-5 (Naled); 309-00-2 (Aldrin); 330-55-2; 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 732-11-6 (Imidan); 786-19-6 (Carbophenothion); 789-02-6 (2,4'-DDT); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan III); 1194-65-6; 1582-09-8; 1689-84-5 (Bromoxynil); 1836-75-5 (Nitrofen); 1861-32-1 (Dacthal); 1861-40-1 (Benefin); 1897-45-6; 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 2425-06-1; 2593-15-9 (Etridiazole); 2675-77-6 (Chloroneb); 2921-88-2 (Chlorpyrifos); 3424-82-6 (2,4'-DDE); 5915-41-3 (Terbuthylazine); 7700-17-6; 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 8065-48-3 (Demeton); 10265-92-6 (Monitor); 10311-84-9 (Dialifor); 12789-03-6 (Chlordane); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 15972-60-8; 19666-30-9; 21087-64-9 (Metribuzin); 22224-92-6 (Nemacur); 22248-79-9 (Tetrachlorvinphos); 23950-58-5 (Pronamide); 24017-47-8 (Hostathion); 25311-71-1 (Isofenphos); 26399-36-0 (Profluralin); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 33213-65-9 (Endosulfan II); 33245-39-5 (Fluchloralin); 35400-43-2 (Bolstar); 36734-19-7 (Iprodione); 41198-08-7 (Profenofos); 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 43121-43-3; 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51338-27-3; 52315-07-8; 52645-53-1; 55283-68-6 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in fruits and vegetables by gas chromatog.) A rapid multiscreen method for 110 pesticides was applied to fruits and vegetables. Samples were extd. and residues were evaluated routinely within 6.5 h of receipt. Organochlorine pesticides were detd. by gas chromatog. on DB-603 and DB-5 columns with electron-capture detection. Organophosphorus pesticides were detd. by gas chromatog. on DB-5 or DB-1701 columns with alkali flame-ionization and flame-photometric detectors, resp. Carbamates were detd. by HPLC on a Waters Carbamate Anal. column with fluorescence detection. Subsequent confirmation of identity was made by gas chromatog.-mass spectrometry. [on SciFinder (R)] 0004-5756 pesticide/ detn/ fruit/ vegetable;/ chromatog/ pesticide;/ gas/ chromatog/ pesticide;/ liq/ chromatog/ pesticide;/ HPLC/ pesticide

562. Hu, Yihe, Li, Haiyan, Frankel, David, and Vetelino, John F (2004). Pesticide detection using a lateral field excited acoustic sensor. *Chemical Sensors* 20: 262-263.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2004:712300
Chemical Abstracts Number: CAN 142:2066
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 35
Document Type: Journal
Language: written in English.
Index Terms: Pesticides; Sound detectors (pesticide detection using lateral field excited acoustic sensor)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: ANT (Analyte), ANST (Analytical study) (pesticide detection using lateral field excited acoustic sensor); 24969-06-0 (Polyepichlorohydrin) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (pesticide detection using lateral field excited acoustic sensor contg.)
Citations: 1) Hu, Y; IEEE UFFC Transactions, in press 2004
Citations: 2) Chen, G; Proceedings Electrochemical Society 2001-18 A lateral field excited (LFE) acoustic wave sensor has been developed in which the sensing surface is bare and the elec. excitation is applied on the bottom surface. The LFE sensor has been used as the sensing platform to detect the pesticide, phosmet (C11H12NO4PS2). A polyepichlorohydrin (PECH) polymer film is applied to the sensing surface to detect the pesticide phosmet in deionized water. The PECH

coated LFE sensor displays a nearly linear response to the injection of the phosmet with a slope of 106Hz/ppm and a sensitivity in the ppb range. [on SciFinder (R)] pesticide/ detection/ lateral/ field/ excited/ acoustic/ sensor

563. Hu, Yihe, Pinkham, Wade, French, Lester A., Frankel, David, and Vetelino, John F (2005). Pesticide detection using a lateral field excited acoustic wave sensor. *Sensors and Actuators, B: Chemical* B108: 910-916.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:511591
Chemical Abstracts Number: CAN 143:280938
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Sensors (acoustic wave; phosmet detn. using a lateral field excited acoustic wave sensor)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: ANT (Analyte), ANST (Analytical study) (phosmet detn. using a lateral field excited acoustic wave sensor); 24969-06-0 (Polyepichlorohydrin) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (sensor coating; phosmet detn. using a lateral field excited acoustic wave sensor)
Citations: 1) Chambers, H; Organophosphates Chemistry, Fate, and Effects 1992, 3
Citations: 2) National Research Council; Pesticides in the Diets of Infants and Children 1993, 386
Citations: 3) National Research Council; Food Regulation Weekly 1999, 16
Citations: 4) United States Environmental Protection Agency; http://www.epa.gov/pesticides/food/
Citations: 5) French, L; Proceedings of the Fourth Acoustic Wave Sensors Workshop 2003
Citations: 6) Hu, Y; Proceedings of the IEEE Ultrasonics Symposium 2003, 46
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Citations: 24) Anon; IEEE Standard on Piezoelectricity, Std 176-1978
Citations: 25) Hatch, E; Proceedings of the IEEE Ultrasonics Symposium 1983, 512
Citations: 26) Bechmann, R; Proceedings of the Annual Frequency Control Symposium 1960, 68
Citations: 27) Sauerbrey, G; Z Phys 1959, 155, 206 A need exists to develop a low-cost, robust,

sensitive, and portable sensor for organophosphate pesticides. A lateral field excited (LFE) acoustic wave sensor has been developed in which the sensing surface is bare and the external excitation is applied to the ref. surface. The LFE sensor is sensitive to both mech. and elec. property changes in the monitored soln. The LFE sensor is used as the sensing platform to detect phosmet. A polyepichlorohydrin (PECH) polymer film is applied to the sensing surface to detect phosmet in soln. The PECH-coated LFE sensor displays a nearly linear response to the addn. of phosmet with a slope of 20 Hz/ppm and the detection limit is in the ppb range. [on SciFinder (R)] 0925-4005 phosmet/ detn/ lateral/ field/ excited/ acoustic/ wave/ sensor

564. Huang, J. T., Hsiu, H. C., Shih, T. B., Chou, U. T., Wang, K. T., and Cheng, C. T (1968). Polyamide layer chromatography of organophosphorus pesticides. *Journal of Pharmaceutical Sciences* 57: 1620-1.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1968:485652
Chemical Abstracts Number: CAN 69:85652
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (phosphorus-contg., chromatog. of)
CAS Registry Numbers: 86-50-0; 114-26-1; 121-75-5; 298-00-0; 298-04-4; 299-84-3; 333-41-5; 732-11-6; 786-19-6; 2674-23-9 Role: ANT (Analyte), ANST (Analytical study) (chromatog. of)
Thin-layer-chromatographic systems and spray reagents are described for the rapid differentiation of 11 organophosphorus pesticides. [on SciFinder (R)] 0022-3549 chromatog/ pesticides;/ pesticides/ chromatog;/ organophosphorus/ pesticides/ chromatog;/ insecticides/ chromatog;/ thin/ layer/ chromatog/ pesticides

565. Huang, Jen-How and Matzner, Egbert (Fluxes of inorganic and organic arsenic species in a Norway spruce forest floor. *Environmental Pollution* In Press, Corrected Proof: 1019.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

To identify the role of the forest floor in arsenic (As) biogeochemistry, concentrations and fluxes of inorganic and organic As in throughfall, litterfall and forest floor percolates at different layers were investigated. Nearly 40% of total Astotal input (5.3 g As ha-1 yr-1) was retained in Oi layer, whereas Astotal fluxes from Oe and Oa layers exceeded the input by far (10.8 and 20 g As ha-1 yr-1, respectively). Except dimethylarsinic acid (DMA), fluxes of organic As decreased with depth of forest floor so that <10% of total deposition (all <0.3 g As ha-1 yr-1) reached the mineral soil. All forest floor layers are sinks for most organic As. Conversely, Oe and Oa layers are sources of Astotal, arsenite, arsenate and DMA. Significant correlations (r >= 0.43) between fluxes of Astotal, arsenite, arsenate or DMA and water indicate hydrological conditions and adsorption-desorption as factors influencing their release from the forest floor. The higher net release of arsenite from Oe and Oa and of DMA from Oa layer in the growing than dormant season also suggests microbial influences on the release of arsenite and DMA. Arsenic speciation/ Throughfall/ Litterfall/ Forest floor percolate
http://www.sciencedirect.com/science/article/B6VB5-4P59S0W-1/2/2483e808a9badddc184669f5b03b243c

566. Huang, M. D., Xiong, J. J., and Du, T. Y. (1987). The Selection for and Genetical Analysis of Phosmet Resistance in Amblyseius-Nicholsi. *Acta entomol sin* 30: 133-139.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM PANONYCHUS-CITRI DIAPHORINA-CITRI PREDACEOUS MITE CITRUS RED MITE CITRUS PSYLLA CITRUS DISEASE VECTOR PHYTOSEIIDAE PARAHAPLOIDY CROSS-RESISTANCE

INSECTICIDE PHOXIM OFTANOL ISOFENPHOS DIMETHOATE VAPONA TRICHLORFON
MESH HEADINGS: ANIMALS/GENETICS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: TROPICAL CLIMATE
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PREVENTIVE MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL, BIOLOGICAL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ARTHROPODS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: INSECTS
MESH HEADINGS: ARTHROPODS
KEYWORDS: Genetics and Cytogenetics-Animal
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Horticulture-Tropical and Subtropical Fruits and Nuts
KEYWORDS: Phytopathology-Disease Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Biological Control
KEYWORDS: Economic Entomology-Integrated Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Rutaceae
KEYWORDS: Homoptera
KEYWORDS: Acarina
LANGUAGE: chi

567. Huang, Zhiqiang, Li, Yongjun, Chen, Bo, and Yao, Shouzhuo (2007). Simultaneous determination of 102 pesticide residues in Chinese teas by gas chromatography-mass spectrometry. *Journal of Chromatography, B: Analytical Technologies in the Biomedical and Life Sciences* 853: 154-162.

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2007:656746
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Tea products (flower; pesticides in tea detd. by solvent extn., gel permeation chromatog., solid-phase extn., and GC-MS); Mass spectrometry (gas chromatog. combined with; pesticides in tea detd. by solvent extn., gel permeation chromatog., solid-phase extn., and GC-MS); Tea products (green; pesticides in tea detd. by solvent extn., gel permeation chromatog., solid-phase extn., and GC-MS); Tea products (leaves, black; pesticides in tea detd. by solvent extn., gel permeation chromatog., solid-phase extn., and GC-MS); Tea products (leaves, oolong; pesticides in tea detd. by solvent extn., gel permeation chromatog., solid-phase extn., and GC-MS); Gas chromatography (mass spectrometry combined with; pesticides in tea detd. by solvent extn., gel permeation chromatog., solid-phase extn., and GC-MS); Capillary gas chromatography; Food analysis; Pesticides; Size-exclusion chromatography; Solvent extraction (pesticides in tea detd. by solvent extn., gel permeation chromatog., solid-phase extn., and GC-MS); Extraction (solid-phase; pesticides in tea detd. by solvent extn., gel permeation chromatog., solid-phase extn., and GC-MS)
CAS Registry Numbers: 608-73-1D Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (HCH; pesticides in tea detd. by solvent extn., gel permeation chromatog., solid-phase extn., and GC-MS); 50-29-3 (DDT); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 72-43-5 (Methoxychlor); 72-56-0 (Perthane); 76-44-8 (Heptachlor); 108-60-1 (DCIP); 114-26-1 (Baygon); 115-29-7 (Endosulfan); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 298-00-0 (Methyl-parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 485-31-4 (Binapacryl); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 834-12-8 (Ametryn); 950-37-8 (Methidathion); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1912-24-9 (Atrazine); 1967-16-4 (Chlorbufam); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2595-54-2 (Mecarbam); 2921-88-2 (Chlorpyrifos); 3766-81-2 (Fenobucarb); 5598-13-0 (Methyl-chlorpyrifos); 7287-19-6 (Prometryn); 7696-12-0 (Tetramethrin); 13593-03-8 (Quinalphos); 17109-49-8 (Edifenphos); 18181-80-1 (Acarol); 21087-64-9 (Metribuzin); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24934-91-6 (Chlormephos); 26002-80-2 (Phenothrin); 29232-93-7 (Methyl-pirimiphos); 32809-16-8 (Procymidone); 33693-04-8 (Terbumeton); 34256-82-1 (Acetochlor); 35400-43-2 (Sulprophos); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 50471-44-8 (Vinclozolin); 51235-04-2 (Hexazinone); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 65907-30-4 (Furathiocarb); 68359-37-5 (Baythroid); 68694-11-1 (Triflumizole); 69327-76-0 (Buprofezin); 69409-94-5 (Mavrik); 70124-77-5 (Flucythrinate); 73250-68-7 (Mefenacet); 80844-07-1 (Etofenprox); 82657-04-3 (Bifenthrin); 86479-06-3 (Hexaflumuron); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 89784-60-1 (Pyraclofos); 91465-08-6 (l-Cyhalothrin); 96489-71-3 (Pyridaben); 112410-23-8 (Tebufenozide); 119446-68-3 (Difenoconazole); 131860-33-8 (Azoxystrobin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides in tea detd. by solvent extn., gel permeation chromatog., solid-phase extn., and GC-MS)
Citations: 1) Yang, C; J Nutr 2000, 130, 2409
Citations: 2) Jaggi, S; J Agric Food Chem 2001, 49, 5479
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Citations: 4) Sano, M; J Assoc Off Anal Chem 1979, 62, 764

Citations: 5) Wan, H; Food Addit Contam 1991, 8, 497
Citations: 6) Dejonckheere, W; J AOAC Int 1996, 79, 97
Citations: 7) Naithani, V; Arch Environ Health 2004, 59, 426
Citations: 8) Sharma, D; Bull Environ Contam Toxicol 2005, 75, 768
Citations: 9) Anon; Selected Materials of Chinese Tea History 1981
Citations: 10) Wu, X; China Tea (Chin) 2003, 1, 6
Citations: 11) Lu, Z; World Standard Qual Manag (Chin) 2003, 4, 31
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Citations: 18) Blasco, C; J Chromatogr A 2002, 970, 201
Citations: 19) Sandra, P; J Chromatogr A 2003, 1000, 299
Citations: 20) Sanchez, A; Anal Chim Acta 2006, 558, 53
Citations: 21) Rimkus, G; J Chromatogr A 1996, 737, 9
Citations: 22) Sasamoto, O; J Sep Sci 2005, 28, 1083
Citations: 23) Pico, Y; Mass Spectrom Rev 2004, 23, 45
Citations: 24) Ferrer, I; J Chromatogr A 2005, 1082, 81
Citations: 25) Sannino, A; J Chromatogr A 2004, 1036, 161
Citations: 26) Hu, Y; J Chromatogr A 2005, 1098, 188
Citations: 27) Fiedler, H; Chemosphere 2002, 46, 1429
Citations: 28) Cai, L; J Chromatogr A 2003, 1015, 11
Citations: 29) Anon; Official Journal of the European Communities L 2002, 221, 0008
Citations: 30) Hiskia, A; J Agric Food Chem 1998, 46, 570
Citations: 31) Takino, M; J Agric Food Chem 2004, 52, 727
Citations: 32) Rasanen, I; J Chromatogr B 2003, 788, 243 An efficient and sensitive method for simultaneous detn. of 102 pesticide residues in teas was established and validated. The multi-residue anal. of the pesticides in teas involved extn. with acetone-Et acetate-hexane, clean-up using gel permeation chromatog. (GPC) and solid-phase extn. (SPE), and subsequent identification and quantification of the selected pesticides by gas chromatog.-mass spectrometry (GC-MS) under retention time locked (RTL) conditions. For most of the target analytes, the optimized pretreatment processes led to no significant interference on anal. from sample matrix, and the detn. of 102 compds. was achieved in about 120 min. Pesticide residues could be detd. in low sub-ppb range, from 0.01 mg/mL for hexachlorobenzene to 2.5 mg/mL for propargite, with av. recoveries ranging from 59.7 to 120.9% (mean 88%) and relative std. deviations (RSDs) in the range 3.0-20.8% (mean 13.7%) for all analytes across 3 fortification tea levels. The limits of detection (LODs) were much lower than the max. residue levels established by the European Union (EU) legislations. [on SciFinder (R)] 1570-0232 pesticide/ tea/ extn/ gel/ permeation/ chromatog/ GCMS

568. Hughes, Kenneth Andrew, Lahm, George Philip, Selby, Thomas Paul, and Stevenson, Thomas Martin (20040812). Preparation of cyano anthranilamide insecticides. 63 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:648522
Chemical Abstracts Number: CAN 141:190786
Section Code: 28-8
Section Title: Heterocyclic Compounds (More Than One Hetero Atom)
CA Section Cross-References: 5
Coden: PIXXD2
Index Terms: Bacillus thuringiensis (co-administration with a member of Bacillus thuringiensis; prepn. of cyano anthranilamide insecticides); Macrolides Role: AGR (Agricultural use), BIOL

(Biological study), USES (Uses) (co-administration with insecticidal macrocyclic lactone; prepn. of cyano anthranilamide insecticides); Hormones Role: BSU (Biological study, unclassified), BIOL (Biological study) (co-administration with juvenile hormone mimic; prepn. of cyano anthranilamide insecticides); GABA antagonists (co-administration with g-aminobutyric acid (GABA) antagonist; prepn. of cyano anthranilamide insecticides); Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae (co-administration; prepn. of cyano anthranilamide insecticides for use in combination with other biol. active compds.); Microorganism (entomopathogenic, co-administration with entomopathogenic virus; prepn. of cyano anthranilamide insecticides for use in combination with other biol. active compds.); Eubacteria; Fungi (entomopathogenic, co-administration; prepn. of cyano anthranilamide insecticides for use in combination with other biol. active compds.); Tabanidae (horse fly, deer fly; prepn. of cyano anthranilamide insecticides for controlling the invertebrate pest); Acari; Araneae; Culicidae; Formicidae; Gnat; Simuliidae; Stomoxys calcitrans; Vespa; Vespula; Wasp (prepn. of cyano anthranilamide insecticides for controlling the invertebrate pest); Insecticides (prepn. of cyano anthranilamide insecticides for use in combination with other biol. active compds.); Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (pyrethroids, co-administration; prepn. of cyano anthranilamide insecticides); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, co-administration with a Bacillus thuringiensis d-endotoxin; prepn. of cyano anthranilamide insecticides)
CAS Registry Numbers: 57-13-6D (Urea) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (co-administration with insecticidal ureas; prepn. of cyano anthranilamide insecticides); 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 83-79-4 (Rotenone); 86-50-0 (Azinphosmethyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathionmethyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifosmethyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultapsodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Beta-Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 76703-62-3; 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Taufluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 129558-76-5 (Tolfenpyrad); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 165252-70-0 (Dinotefuran); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 201593-84-2 (Bistrifluron); 209861-58-5 (Acetoprole); 210880-92-5 (Clothianidin); 223419-20-3 (Profluthrin); 240494-70-6 (Metofluthrin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (co-administration; prepn. of cyano anthranilamide insecticides for use in combination with other biol. active compds.); 500011-03-0P; 736994-59-5P; 736994-60-8P;

736994-61-9P; 736994-62-0P; 736994-63-1P; 736994-64-2P; 736994-65-3P; 736994-66-4P; 736994-67-5P; 736994-68-6P; 736994-69-7P; 736994-70-0P; 736994-71-1P; 736994-72-2P; 736994-73-3P; 736994-74-4P; 736994-75-5P; 736994-76-6P; 736994-77-7P; 736994-78-8P; 736994-79-9P; 736994-80-2P; 736994-81-3P; 736994-82-4P; 736994-83-5P; 736994-84-6P; 736994-85-7P; 736994-86-8P; 736994-87-9P; 736994-88-0P; 736994-89-1P; 736994-90-4P; 736994-91-5P; 736994-92-6P; 736994-93-7P; 736994-94-8P; 736994-95-9P; 736994-96-0P; 736994-97-1P; 736994-98-2P; 736994-99-3P; 736995-00-9P; 736995-01-0P; 736995-02-1P; 736995-03-2P; 736995-04-3P; 736995-05-4P; 736995-06-5P; 736995-07-6P; 736995-08-7P; 736995-09-8P; 736995-10-1P; 736995-11-2P; 736995-12-3P; 736995-13-4P; 736995-14-5P; 736995-15-6P; 736995-16-7P; 736995-17-8P; 736995-18-9P; 736995-19-0P; 736995-20-3P; 736995-21-4P; 736995-22-5P; 736995-23-6P; 736995-24-7P; 736995-25-8P; 736995-26-9P; 736995-27-0P; 736995-28-1P; 736995-29-2P; 736995-30-5P; 736995-31-6P; 736995-32-7P; 736995-33-8P; 736995-34-9P; 736995-35-0P; 736995-36-1P; 736995-37-2P; 736995-38-3P; 736995-39-4P; 736995-40-7P; 736995-41-8P; 736995-42-9P; 736995-43-0P; 736995-44-1P; 736995-45-2P; 736995-46-3P; 736995-47-4P; 736995-48-5P; 736995-49-6P; 736995-50-9P; 736995-51-0P; 736995-52-1P; 736995-53-2P; 736995-54-3P; 736995-55-4P; 736995-56-5P; 736995-57-6P; 736995-58-7P; 736995-59-8P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of cyano anthranilamide insecticides); 2402-77-9 (2,3-Dichloropyridine); 6388-47-2 (2-Amino-3-chlorobenzoic acid); 20154-03-4 (3-Trifluoromethylpyrazole) Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of cyano anthranilamide insecticides); 4389-45-1P; 14339-33-4P; 14521-80-3P; 101012-31-1P; 438450-38-5P; 438450-39-6P; 458543-77-6P; 458543-78-7P; 458543-79-8P; 500008-69-5P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500028-90-0P; 736995-60-1P; 736995-61-2P; 736995-62-3P; 736995-63-4P; 736995-64-5P; 736995-65-6P; 736995-66-7P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of cyano anthranilamide insecticides)
PCT Designated States: Designated States W: AE.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2003-443256
Priority Application Date: 20030128 The title compds. [I; R1 = Me, Cl, Br, F; R2 = F, Cl, Br, haloalkyl or haloalkoxy; R3 = F, Cl, Br; R4 = H, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkylalkyl, each optionally substituted with one substituent selected from the group consisting of halo, CN, SMe S(O)Me, S(O)2Me and OMe; R5 = H, Me; R6 = H, F, Cl; R7 = H, F, Cl], useful for controlling an invertebrate pest, were prepd. E.g., a multi-step synthesis of compd. I [R1 = Me; R2 = CF3; R3 = Cl; R4, R5 = H], was given. The compds. I were tested in various biol. tests (data given). This invention also pertains to a compn. for controlling an invertebrate pest comprising a biol. effective amt. of a compd. I, an N-oxide thereof or a suitable salt of the compd. I and at least one addnl. component selected from the group consisting of a surfactant, a solid diluent and a liq. diluent. [on SciFinder (R)] C07D401-04. cyano/ anthranilamide/ prepn/ insecticide/ invertebrate/ pest

569. Huijbregts, Mark A. J., Rombouts, Linda J. A., Ragas, Ad M. J., and van de Meent, Dik (2005). Human toxicological effect and damage factors of carcinogenic and noncarcinogenic chemicals for life cycle impact assessment. *Integrated Environmental Assessment and Management* 1: 181-244.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 2005:699596
Chemical Abstracts Number: CAN 144:344703
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 1, 14
Document Type: Journal
Language: written in English.

Index Terms: Prostate gland (benign hyperplasia; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Hyperplasia (benign prostatic; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Mental and behavioral disorders (bipolar disorder; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Ischemia (cardiac; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Inflammation (carditis; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Brain (cerebrovascular; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Uterus (cervix; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Paraffin waxes Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (chloro; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Lung (chronic obstructive pulmonary disease; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Coal tar Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (coke overemissions; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Intestine (colon; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Life (cycle; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Mental and behavioral disorders (dementia; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Disease (digestion disorder; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Digestion (disease; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Vitamins Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (fat-sol.; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Trace metals Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (heavy; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Steroids Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (hormones; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Anesthetics; Antibiotics; Asthma; Bladder; Bronchi; Carcinogens; Cardiovascular system; Cataract; Cirrhosis; Congenital malformations; Cytotoxic agents; Diabetes mellitus; Drug toxicity; Dyes; Epilepsy; Esophagus; Fungicides; Glaucoma; Herbicides; Human; Insecticides; Kidney; Leukemia; Liver; Lung; Lymphoma; Mammary gland; Melanoma; Mouth; Multiple myeloma; Multiple sclerosis; Muscle; Mutagens; Natural products; Neoplasm; Osteoarthritis; Ovary; Pancreas; Parkinson's disease; Parturition; Pesticides; Prostate gland; Respiratory system; Rheumatoid arthritis; Risk assessment; Schizophrenia; Skeleton; Skin; Solvents; Stomach; Toxicants; Toxicity; Urinary system; Uterus (human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Aflatoxins; Alcohols; Aldehydes; Amino acids; Insect-molting hormones; Mycotoxins; Pyrethrins; Rare earth metals; Tocopherols; Toxins; Vitamins Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Toxicity (inhalation; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Heart (ischemia; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Heart; Inflammation (myocarditis; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Trachea (neoplasm; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Inflammation; Kidney (nephritis; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Mental and behavioral disorders (obsession-compulsion; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Insecticides (organochlorine; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Insecticides

(organophosphorus; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Pharynx (oropharynx; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Anxiety (panic disorder; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Ulcer (peptic; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Medicine (psychiatry, neuropsychiatry; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Intestine (rectum; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Heart (rheumatic; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Organ (sense organ; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Organ (sensory, disease; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Hormones Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (steroid; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Heavy metals Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (trace; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Neoplasm (tracheal; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); Digestive tract (ulcer, peptic; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment)
CAS Registry Numbers: 7439-97-6D (Mercury) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (f; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); 50-00-0 (Formaldehyde); 50-06-6 (Phenobarbital); 50-07-7 (Mitomycin-C); 50-18-0 (Cyclophosphamide); 50-24-8 (Prednisolone); 50-29-3 (DDT); 50-32-8 (Benzo[a]pyrene); 50-33-9 (Phenylbutazone); 50-55-5 (Reserpine); 50-76-0 (Actinomycin D); 51-03-6 (Piperonyl butoxide); 51-21-8 (5-Fluorouracil); 51-28-5 (2,4-Dinitrophenol); 51-52-5 (Propylthiouracil); 51-75-2; 51-79-6 (Urethane); 52-24-4 (Thio-tepa); 52-68-6 (Trichlorfon); 52-76-6 (Lynestrenol); 53-43-0 (Dehydroepiandrosterone); 53-70-3 (Dibenz[a,h]anthracene); 53-86-1 (Indomethacin); 53-95-2 (N-Hydroxy-2-acetylaminofluorene); 53-96-3 (2-Acetylaminofluorene); 54-31-9 (Furosemide); 54-85-3 (Isoniazid); 55-18-5 (N-Nitrosodiethylamine); 55-38-9 (Fenthion); 55-63-0 (Trinitroglycerin); 55-80-1 (3'-Methyl-4-dimethylamino-azobenzene); 56-04-2 (Methylthiouracil); 56-23-5 (Carbon tetrachloride); 56-35-9 (Tributyltin-oxide); 56-38-2 (Parathion); 56-40-6 (Glycine); 56-49-5 (3-Methylcholanthrene); 56-53-1 (Diethylstilbestrol); 57-06-7 (Allyl isothiocyanate); 57-12-5 (Cyanide); 57-14-7 (1,1-Dimethylhydrazine); 57-24-9 (Strychnine); 57-30-7 (Phenobarbital, sodium); 57-39-6 (Metepa); 57-41-0 (5,5-Diphenylhydantoin); 57-57-8 (b-Propiolactone); 57-63-6 (Ethinyl estradiol); 57-66-9 (Probenecid); 57-68-1 (Sulfamethazine); 57-97-6; 58-89-9 (g-1,2,3,4,5,6-Hexachlorocyclo-hexane); 58-90-2 (2,3,4,6-Tetrachlorophenol); 59-33-6 (Pyrilamine maleate); 59-35-8 (4,6-Dimethyl-2-(5-nitro-2-furyl)pyrimidine); 59-87-0 (5-Nitro-2-furaldehyde semicarbazone); 59-88-1 (Phenylhydrazine hydrochloride); 59-89-2 (N-Nitrosomorpholine); 60-11-7; 60-29-7 (Ethyl ether); 60-34-4 (Methylhydrazine); 60-35-5 (Acetamide); 60-51-5 (Dimethoate); 60-56-0 (Methimazole); 60-57-1 (Dieldrin); 60-80-0 (Phenazone); 61-82-5 (3-Aminotriazole); 61-94-9 (Arecoline hydrochloride); 62-23-7 (p-Nitrobenzoic acid); 62-38-4 (Phenylmercuric acetate); 62-44-2 (Phenacetin); 62-53-3 (Aniline); 62-55-5 (Thioacetamide); 62-56-6 (Thiourea); 62-73-7 (Dichlorvos); 62-74-8 (Sodium fluoroacetate); 62-75-9 (N-Nitrosodimethylamine); 63-25-2 (Carbaryl); 63-92-3 (Phenoxybenzamine hydrochloride); 64-17-5 (Ethyl alcohol); 65-85-0 (Benzoic acid); 66-22-8 (Uracil); 66-27-3 (Methyl methanesulfonate); 67-20-9 (1-[(5-Nitrofurfurylidene)amino]hydantoin); 67-21-0 (DL-Ethionine); 67-56-1 (Methanol); 67-64-1 (Acetone); 67-66-3 (Chloroform); 67-72-1 (Hexachloroethane); 68-12-2 (Dimethylformamide); 68-76-8 (Trenimon); 68-89-3 (Dipyrone); 70-25-7 (N-Methyl-N'-nitro-N-nitrosoguanidine); 70-30-4 (Hexachlorophene); 71-36-3 (Butanol); 71-43-2 (Benzene); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 74-83-9 (Bromomethane); 74-87-3 (Methyl chloride); 74-90-8 (Hydrogen cyanide); 74-96-4 (Bromoethane); 75-00-3 (Chloroethane); 75-01-4 (Vinyl chloride); 75-02-5 (Vinyl fluoride); 75-05-8 (Acetonitrile); 75-07-0 (Acetaldehyde); 75-09-2 (Methylene

chloride); 75-15-0 (Carbon disulphide); 75-21-8 (Ethylene oxide); 75-25-2 (Tribromomethane); 75-27-4 (Bromodichloromethane); 75-35-4 (Vinylidene chloride); 75-37-6 (HFC-152a); 75-45-6 (Freon-22); 75-52-5 (Nitromethane); 75-56-9 (1,2-Propylene oxide); 75-60-5 (Dimethylarsinic acid); 75-65-0 (tert-Butyl alcohol); 75-68-3 (1,1-Difluoro-1-chloroethane); 75-69-4 (CFC-11); 75-71-8 (CFC-12); 75-88-7 (2-Chloro-1,1,1-trifluoroethane); 76-01-7 (Pentachloroethane); 76-03-9 (Trichloroacetic acid); 76-13-1 (Freon 113); 76-25-5 (Triamcinolone acetonide); 76-44-8 (Heptachlor); 76-87-9 (Fentin hydroxide); 77-09-8 (Phenolphthalein); 77-46-3 (4,4'-Sulfonylbisacetanilide); 77-47-4 (Hexachlorocyclopentadiene); 78-00-2 (Tetraethyl lead); 78-34-2 (Dioxathion); 78-42-2 (Tris(2-ethylhexyl)phosphate); 78-48-8 (s,s,s-Tributyltrithiophosphate); 78-59-1 (Isophorone); 78-79-5 (Isoprene); 78-83-1 (Isobutanol); 78-87-5 (1,2-Dichloropropane); 78-93-3 (Methyl ethyl ketone); 79-00-5 (1,1,2-Trichloroethane); 79-01-6 (Trichloroethylene); 79-06-1 (Acrylamide); 79-10-7 (Acrylic acid); 79-34-5 (1,1,2,2-Tetrachloroethane); 79-43-6 (Dichloroacetic acid); 79-44-7 (Dimethylcarbamyl chloride); 79-46-9 (2-Nitropropane); 80-05-7; 80-08-0 (Dapsone); 80-33-1 (Chlorfenson); 80-62-6 (Methyl methacrylate); 81-15-2 (2,4,6-Trinitro-1,3-dimethyl-5-tert-butylbenzene); 81-49-2 (1-Amino-2,4-dibromoanthraquinone); 81-54-9 (Purpurin); 81-81-2 (Warfarin); 82-28-0 (1-Amino-2-methylanthraquinone); 82-68-8 (Pentachloronitrobenzene); 83-32-9 (Acenaphthene); 83-79-4 (Rotenone); 84-66-2 (Diethylphthalate); 84-74-2 (Dibutylphthalate); 85-00-7 (Diquat dibromide); 85-44-9 (Phthalic anhydride); 85-68-7 (Butyl benzyl phthalate); 85-70-1 (Butylphthalyl butylglycolate); 86-30-6 (N-Nitrosodiphenylamine); 86-50-0 (Azinphos-methyl); 86-73-7 (Fluorene); 86-74-8 (Carbazole); 87-29-6 (Cinnamyl anthranilate); 87-68-3 (Hexachlorobutadiene); 87-82-1 (Hexabromobenzene); 87-86-5 (2,3,4,5,6-Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 88-19-7 (o-Toluenesulfonamide); 88-73-3 (1-Chloro-2-nitrobenzene); 88-85-7 (Dinoseb); 90-43-7 (o-Phenylphenol); 90-94-8 (Michler's ketone); 91-20-3 (Naphthalene); 91-22-5 (Quinoline); 91-23-6 (o-Nitroanisole); 91-53-2 (Ethoxyquin); 91-57-6 (2-Methylnaphthalene); 91-58-7 (b-Chloronaphthalene); 91-59-8 (2-Naphthylamine); 91-64-5 (Coumarin); 91-93-0; 91-94-1 (3,3'-Dichlorobenzidine); 92-52-4 (Diphenyl); 92-52-4D (Biphenyl); 92-52-4D (1,1'-Biphenyl); 92-67-1 (4-Aminodiphenyl); 92-87-5 (Benzidine); 93-65-2 (Mecoprop); 93-72-1 (2-(2,4,5-Trichlorophenoxy) propionic acid); 93-76-5 (2,4,5-T); 94-52-0 (6-Nitrobenzimidazole); 94-58-6 (Dihydrosafrole); 94-59-7 (Safrole); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 94-82-6 (Butyric acid, 4-(2,4-dichlorophenoxy); 95-06-7 (Sulfallate); 95-48-7 (o-Cresol); 95-49-8 (o-Chlorotoluene); 95-50-1 (1,2-Dichlorobenzene); 95-57-8 (2-Chlorophenol); 95-65-8 (3,4-Dimethylphenol); 95-79-4 (5-Chloro-o-toluidine); 95-80-7 (2,4-Diaminotoluene); 95-83-0 (4-Chloro-o-phenylenediamine); 95-94-3 (1,2,4,5-Tetrachlorobenzene); 95-95-4 (2,4,5-Trichlorophenol); 96-09-3 (Styrene oxide); 96-12-8 (1,2-Dibromo-3-chloropropane); 96-18-4 (1,2,3-Trichloropropane); 96-45-7 (Ethylene thiourea); 97-56-3 (o-Aminoazotoluene); 98-01-1 (Furfural); 98-07-7 (Benzotrichloride); 98-82-8 (Cumene); 98-85-1 (a-Methylbenzyl alcohol); 98-86-2 (Acetophenone); 98-95-3 (Nitrobenzene); 99-30-9 (Dicloran); 99-35-4 (1,3,5-Trinitrobenzene); 99-55-8 (5-Nitro-o-toluidine); 99-57-0 (2-Amino-4-nitrophenol); 99-59-2 (5-Nitro-o-anisidine); 99-65-0 (m-Dinitrobenzene); 99-80-9 (N-Methyl-N,4-dinitrosoaniline); 100-00-5 (1-Chloro-4-nitrobenzene); 100-40-3 (4-Vinylcyclohexene); 100-41-4 (Ethylbenzene); 100-42-5 (Styrene); 100-44-7 (Benzyl chloride); 100-52-7 (Benzaldehyde); 100-75-4 (N-Nitrosopiperidine); 101-05-3 (Anilazine); 101-14-4 (4,4'-Methylene-bis(2-chloroaniline); 101-21-3 (Chlorpropham); 101-61-1 (4,4'-Methylenebis(N,N-dimethyl)benzenamine); 101-68-8; 101-79-1 (4-Chloro-4'-amino-diphenylether); 101-80-4 (4,4'-Oxydianiline); 101-90-6 (Diglycidyl resorcinol ether); 102-50-1 (m-Cresidine); 102-71-6 (Triethanolamine); 103-03-7 (1-Carbamyl-2-phenylhydrazine); 103-17-3 (Chlorbenside); 103-23-1 (Di(2-Ethylhexyl) adipate); 103-33-3 (Azobenzene); 103-90-2 (Acetaminophen); 104-76-7 (2-Ethylhexanol); 105-11-3 (p-Quinone dioxime); 105-55-5 (N,N'-Diethylthiourea); 105-60-2 (e-Caprolactam); 105-67-9 (2,4-Dimethylphenol); 106-37-6 (1,4-Dibromobenzene); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-51-4 (1,4-Benzoquinone); 106-88-7 (1,2-Epoxybutane); 106-89-8 (Epichlorohydrin); 106-92-3 (Allyl glycidyl ether); 106-93-4 (1,2-Dibromoethane); 106-99-0 (1,3-Butadiene); 107-02-8 (Acrolein); 107-05-1 (Allyl chloride); 107-06-2 (1,2-Dichloroethane); 107-13-1 (Acrylonitrile); 107-18-6 (Allyl alcohol); 107-19-7 (Propargyl alcohol); 107-20-0 (Chloroacetaldehyde); 107-21-1 (Ethylene glycol); 107-30-2 (Chloromethyl methyl ether); 107-98-2 (1-Methoxy-2-propanol); 108-05-4 (Vinyl acetate); 108-10-1 (Hexone); 108-31-6 (Maleic anhydride); 108-39-4 (m-Cresol); 108-45-2 (1,3-Phenylenediamine); 108-60-1 (Bis(2-chloro-1-methylethyl)ether); 108-78-1 (Melamine); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 108-91-8 (Cyclohexylamine); 108-94-1 (Cyclohexanone); 108-95-2 (Phenol); 109-84-2 (2-Hydroxyethylhydrazine); 109-86-4 (2-Methoxyethanol); 109-99-9 (Tetrahydrofuran); 110-00-9 (Furan); 110-54-3 (Hexane); 110-57-6 (trans-1,4-Dichloro-2-butene); 110-80-5 (Cellosolve); 110-82-7 (Cyclohexane); 110-86-1 (Pyridine); 111-44-4 (Bis-2-chloroethylether); 111-46-6 (Diethylene glycol); 111-76-2 (2-Butoxyethanol); 114-26-1 (Propoxur); 114-83-0 (1-Acetyl-2-phenyl-hydrazine); 115-02-6 (Azaserine); 115-09-3 (Mercurymethyl chloride); 115-11-7 (Isobutene); 115-28-6 (Chlorendic acid); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 115-96-8 (Tris(2-chloroethyl)-phosphate); 116-06-3 (Aldicarb); 116-14-3 (Tetrafluoroethylene); 117-10-2 (Chrysazin); 117-18-0 (Tecnazene); 117-39-5 (Quercetin); 117-79-3 (2-Aminoanthraquinone); 117-81-7 (Di(2-ethylhexyl)phthalate); 118-74-1 (Hexachlorobenzene); 118-96-7 (2,4,6-Trinitrotoluene); 119-34-6 (4-Amino-2-nitrophenol); 119-84-6 (3,4-Dihydrocoumarin); 120-12-7 (Anthracene); 120-32-1 (o-Benzyl-p-chlorophenol); 120-61-6 (Dimethyl terephthalate); 120-62-7 (Piperonyl sulfoxide); 120-71-8 (p-Cresidine); 120-80-9 (Catechol); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-14-2 (2,4-Dinitrotoluene); 121-44-8 (Triethylamine); 121-66-4 (2-Amino-5-nitrothiazole); 121-69-7 (N,N-Dimethylaniline); 121-75-5 (Malathion); 121-82-4 (Hexahydro-1,3,5-trinitro-1,3,5-triazine); 121-88-0 (2-Amino-5-nitrophenol); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Profam); 122-60-1 (Phenylglycidyl ether); 122-66-7 (Hydrazobenzene); 123-31-9 (Hydroquinone); 123-33-1 (Maleic hydrazide); 123-73-9; 123-91-1 (1,4-Dioxane); 124-48-1 (Chlorodibromomethane); 126-07-8 (Griseofulvin); 126-72-7 (Tris(2,3-dibromopropyl)-phosphate); 126-85-2 (Nitrogen mustard oxide); 126-98-7 (Methylacrylonitrile); 126-99-8 (Chloroprene); 127-06-0 (Acetoxime); 127-18-4 (Tetrachloroethylene); 127-20-8 (Dalapon, sodium salt); 127-47-9; 128-37-0 (Butylated hydroxy-toluene); 128-44-9 (Saccharin, sodium); 128-66-5 (CI Vat Yellow 4); 129-00-0 (Pyrene); 129-15-7 (2-Methyl-1-nitroanthraquinone); 129-43-1 (1-Hydroxyanthraquinone); 131-89-5 (4,6-Dinitro-o-cyclohexylphenol); 132-27-4 (Sodium o-phenylphenol); 132-32-1D (3-Amino-9-ethylcarbazole); 133-06-2 (Captan); 133-07-3 (N-(Trichloromethylthio)phthalimide); 133-90-4 (Chloramben); 134-29-2 (o-Anisidine hydrochloride); 135-20-6 (Cupferron); 135-23-9 (Methapyrilene hydrochloride); 136-40-3 (Phenazopyridine hydrochloride); 137-09-7 (2,4-Diaminophenol dihydrochloride); 137-17-7 (2,4,5-Trimethylaniline); 137-26-8 (Thiram); 137-30-4 (Zinc dimethyl dithiocarbamate); 139-05-9 (Cyclamate, sodium); 139-13-9 (Nitrilotriacetic acid); 139-40-2 (Propazine); 139-65-1 (4,4'-Thiodianiline); 139-94-6 (Nithiazide); 140-11-4 (Benzyl acetate); 140-57-8 (Aramite); 140-67-0 (Estragole); 140-79-4; 140-88-5 (Ethyl acrylate); 141-66-2 (Bidrin); 141-78-6 (Ethyl acetate); 141-90-2 (Thiouracil); 142-04-1 (Aniline hydrochloride); 143-33-9 (Sodium cyanide); 143-50-0 (Kepone); 144-02-5 (Barbital, sodium); 145-73-3 (Endothall); 148-18-5 (Sodium diethyldithiocarbamate); 148-79-8; 148-82-3 (Melphalan); 149-17-7 (Isonicotinic acid vanillylidenehydrazide); 149-30-4 (2-Mercaptobenzothiazole); 150-50-5 (Merphos); 150-68-5 (3-(p-Chlorophenyl)-1,1-dimethylurea); 150-69-6 (4-Ethoxyphenylurea); 150-76-5 (4-Methoxyphenol); 151-50-8 (Potassium cyanide); 151-56-4 (Ethyleneimine); 156-10-5 (p-Nitrosodiphenylamine); 156-51-4 (Phenethylhydrazine sulfate); 156-60-5 (trans-1,2-Dichloroethylene); 206-44-0 (Fluoranthene); 271-89-6 (Benzofuran); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 298-14-6 (Potassium bicarbonate); 298-59-9 (Methylphenidate hydrochloride); 298-81-7 (8-Methoxypsoralen); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 301-04-2 (Lead acetate); 302-01-2 (Hydrazine); 302-15-8 (Methylhydrazine sulfate); 302-17-0 (Chloral hydrate); 303-34-4 (Lasiocarpine); 303-47-9 (Ochratoxin A); 305-03-3 (Chlorambucil); 306-37-6 (1,2-Dimethylhydrazine dihydrochloride); 306-83-2 (HCFC 123); 309-00-2 (Aldrin); 315-22-0 (Monocrotaline); 319-84-6 (a-1,2,3,4,5,6-Hexachlorocyclohexane); 319-85-7 (b-1,2,3,4,5,6-Hexachlorocyclo-hexane); 320-67-2 (5-Azacytidine); 324-93-6 (4'-Fluoro-4-aminobiphenyl); 330-54-1 (Diuron); 330-55-2 (Linuron); 331-39-5 (Caffeic acid); 333-41-5 (Diazinon); 363-17-7 (N-(2-Fluorenyl)-2,2,2-trifluoroacetamide); 366-70-1 (Procarbazine hydrochloride); 389-08-2 (Nalidixic acid); 396-01-0 (Triamterene); 398-32-3 (N-4-(4'-Fluorobiphenyl)acetamide); 404-86-4 (Capsaicin); 427-51-0 (Cyproterone acetate); 443-48-1 (Metronidazole); 446-86-6 (Azathioprine); 452-86-8 (4-Methylcatechol); 460-19-5 (Cyanogen); 470-90-6 (Chlorfenvinphos); 488-41-5

(Dibromomannitol); 505-29-3 (1,4-Dithiane); 506-61-6 (Potassium silver cyanide); 506-64-9 (Silver cyanide (Ag(CN)); 506-68-3 (Cyanogen bromide); 506-77-4 (Chlorine cyanide); 509-14-8 (Tetranitromethane); 510-15-6 (Chlorobenzilate); 512-56-1 (Trimethylphosphate); 513-37-1 (Dimethylvinyl chloride); 517-28-2 (Hematoxylin); 518-75-2 (Citrinin); 531-82-8 (N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide); 531-85-1; 532-27-4 (2-Chloroacetophenone); 533-31-3 (Sesamol); 536-33-4 (Ethionamide); 540-23-8 (p-Toluidine hydrochloride); 540-51-2; 542-56-3 (Isobutyl nitrite); 542-75-6 (Telone II); 542-88-1 (Bis-(chloromethyl)ether); 544-92-3 (Copper cyanide); 548-62-9 (Gentian violet); 551-88-2 (3-Nitropentane); 551-92-8 (1,2-Dimethyl-5-nitroimidazole); 553-53-7 (Nicotinic acid hydrazide); 555-84-0 (1-[(5-Nitrofurfurylidene)amino]-2-imidazolidinone); 556-52-5 (Glycidol); 556-88-7 (Nitroguanidine); 557-21-1 (Zinc cyanide); 562-10-7; 563-12-2 (Ethion); 563-41-7; 563-47-3 (3-Chloro-2-methylpropene); 563-68-8 (Thallium acetate); 569-61-9 (p-Rosaniline hydrochloride); 576-26-1 (2,6-Dimethylphenol); 590-21-6 (1-Chloropropene); 592-01-8 (Calcium cyanide); 592-62-1D (Methylazoxymethanol acetate); 593-60-2 (Vinyl bromide); 593-70-4 (Chlorofluoromethane); 597-25-1 (Dimethyl morpholinophosphoramidate); 598-55-0 (Methyl carbamate); 598-57-2 (Methylnitramine); 598-77-6 (1,1,2-Trichloropropane); 599-79-1 (Salicylazosulfapyridine); 600-24-8 (2-Nitrobutane); 602-87-9 (5-Nitroacenaphthene); 604-75-1 (Oxazepam); 606-20-2 (2,6-Dinitrotoluene); 607-35-2 (8-Nitroquinoline); 607-57-8 (2-Nitrofluorene); 608-73-1 (Hexachlorocyclohexane); 608-93-5 (Pentachlorobenzene); 609-20-1 (2,6-Dichloro-p-phenylenediamine); 611-23-4 (o-Nitrosotoluene); 612-82-8 (3,3'-Dimethylbenzidine dihydrochloride); 613-94-5 (Benzoyl hydrazine); 614-00-6; 614-95-9 (N-Nitroso-N-ethylurethane); 615-28-1 (o-Phenylenediamine.dihydrochloride); 615-53-2; 615-54-3 (1,2,4-Tribromobenzene); 616-23-9; 621-64-7 (N-Nitrosodipropylamine); 622-51-5 (p-Tolylurea); 624-84-0 (Formylhydrazine); 628-02-4 (Hexanamide); 628-36-4 (1,2-Diformylhydrazine); 630-20-6 (1,1,1,2-Tetrachloroethane); 634-93-5 (2,4,6-Trichloroaniline); 636-21-5 (o-Toluidine hydrochloride); 636-23-7 (2,4-Diaminotoluene dihydrochloride); 637-07-0 (Clofibrate); 638-03-9 (m-Toluidine hydrochloride); 639-58-7 (Fentin chloride); 640-15-3 (Thiometon); 645-05-6 (Hexamethylmelamine); 668-34-8 (Fentin); 671-16-9 (Procarbazine); 680-31-9 (Hexamethylphosphoramide); 683-50-1 (2-Chloropropanal); 684-93-5 (N-Nitroso-N-methylurea); 685-91-6; 709-98-8 (Propanil); 712-68-5 (2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole); 720-69-4 (4,6-Diamino-2-(5-nitro-2-furyl)-S-Triazine); 732-11-6 (Phosmet); 756-79-6 (Dimethyl methylphosphonate); 758-17-8 (N-Methyl-N-formylhydrazine); 759-73-9 (1-Ethyl-1-nitrosourea); 759-94-4; 760-56-5 (1-Allyl-1-nitrosourea); 760-60-1; 765-34-4 (Glycidaldehyde); 786-19-6 (Carbophenothion); 789-61-7 (b-Thioguanine deoxyriboside); 811-97-2 (1,1,1,2-Tetrafluoroethane); 816-57-9 (N-Propyl-N-nitrosourea); 822-06-0 (1,6-Hexamethylene diisocyanate); 828-00-2 (Dimethoxane); 838-88-0 (4,4'-Methylene-bis(2-methylaniline); 842-00-2 (4-Ethylsulfonylnaphthalene-1-sulfonamide); 842-07-9 (1-Phenylazo-2-naphthol); 853-23-6; 868-85-9 (Dimethyl hydrogen phosphite); 869-01-2 (N-n-Butyl-N-nitrosourea); 886-50-0 (Terbutryn); 900-95-8 (Fentin acetate); 915-67-3; 919-86-8 (Demeton-s-methyl); 924-16-3 (Nitrosodibutylamine); 924-42-5 (N-Methylolacrylamide); 930-55-2 (N-Nitrosopyrrolidine); 932-83-2; 934-00-9 (3-Methoxycatechol); 937-25-7 (N-Nitroso-N-methyl-4-fluoroaniline); 938-73-8 (o-Ethoxybenzamide); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 999-81-5; 1024-57-3 (Heptachlor epoxide); 1068-57-1 (Monoacetyl hydrazine); 1071-83-6 (Glyphosate); 1078-38-2 (1-Acetyl-2-isonicotinoyl-hydrazine); 1083-57-4 (3-Hydroxy-p-butyrophenetidide); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1116-54-7 (N-Nitrosodiethanolamine); 1119-68-2 (n-Pentylhydrazine hydrochloride); 1120-71-4 (Propane sultone); 1133-64-8; 1162-65-8 (Aflatoxin B1); 1163-19-5 (Decabromodiphenyl oxide); 1192-28-5; 1313-27-5 (Molybdenum trioxide); 1314-62-1 (Vanadium pentoxide); 1314-84-7 (Zinc phosphide); 1330-20-7 (Xylene); 1335-32-6 (Lead acetate, basic); 1445-75-6 (Diisopropyl methylphosphonate); 1456-28-6; 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1596-84-5 (Daminozide); 1610-18-0 (Prometon); 1634-04-4 (Methyl tert-butyl ether); 1689-84-5 (Bromoxynil); 1689-99-2 (Bromoxynil octanoate); 1694-09-3 (Benzyl violet 4b); 1717-00-6 (1,1-Dichloro-1-fluoroethane); 1746-01-6 (2,3,7,8-Tetrachlorodibenzo-p-dioxin); 1777-84-0 (3-Nitro-p-acetophenetide); 1825-21-4 (Pentachloroanisole); 1832-54-8 (Isopropyl methyl phosphonic acid); 1836-75-5 (Nitrofen); 1861-32-1 (Dacthal); 1861-40-1 (Benefin); 1897-45-6 (Chlorothalonil); 1910-42-5 (Paraquat-dichloride); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 1918-16-7 (Propachlor); 1929-77-7 (Vernam);

1937-37-7 (C.I. Direct black 38); 1955-45-9 (Pivalolactone); 2008-41-5 (Butylate); 2032-65-7 (Methiocarb); 2055-46-1; 2104-09-8 (2-Amino-4-(p-nitrophenyl)thiazole); 2104-64-5; 2104-96-3 (Bromophos); 2113-61-3 (4-Aminobiphenyl hydrochloride); 2122-86-3 (5-(5-Nitro-2-furyl)-1,3,4-oxadiazol-2-ol); 2164-17-2 (Fluometuron); 2185-92-4 (2-Biphenylamine hydrochloride); 2212-67-1 (Molinate); 2243-62-1 (1,5-Naphthalenediamine); 2275-23-2 (Vamidothion); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2318-18-5 (Senkirkine); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2425-85-6 (C.I. Pigment red 3); 2429-74-5 (C.I. Direct blue 15); 2432-99-7 (11-Aminoundecanoic acid); 2439-01-2 (Chinomethionat); 2439-10-3 (Dodine); 2465-27-2 (Auramine-O); 2475-45-8 (C.I. Disperse blue 1); 2489-77-2 (Trimethylthiourea); 2540-82-1 (Formothion); 2578-75-8 (N-[5-(5-Nitro-2-furyl)-1,3,4-thiadiazol-2-yl]-acetamide); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2602-46-2 (C.I. Direct blue 6); 2611-82-7; 2691-41-0 (Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine); 2764-72-9 (Diquat); 2784-94-3 (HC blue no. 1); 2832-40-8 (C.I. Disperse yellow 3); 2835-39-4 (Allyl isovalerate); 2921-88-2 (Chlorpyrifos); 3031-51-4; 3068-88-0 (b-Butyrolactone); 3096-50-2 (N-(9-Oxo-2-fluorenyl)-acetamide); 3165-93-3 (4-Chloro-o-toluidine hydrochloride); 3276-41-3 (3,6-Dihydro-2-nitroso-2H-1,2-oxazine); 3296-90-0 (2,2-Bis(bromomethyl)-1,3-propanediol); 3337-71-1 (Asulam); 3347-22-6 (Dithianon); 3544-23-8 (3-Methoxy-4-aminoazobenzene); 3546-10-9 (Phenesterin); 3564-09-8 (FD # C red no. 1); 3570-75-0 (Formic acid 2-[4-(5-nitro-2-furyl)-2-thiazolyl]-hydrazide); 3604-87-3 (a-Ecdysone); 3688-53-7 (Af-2); 3689-24-5; 3693-22-9 (2-Dibenzofuranamine); 3761-53-3; 3771-19-5 (Nafenopin); 3775-55-1; 3778-73-2 (Isophosphamide); 3817-11-6 (N-Butyl-N-(4-hydroxybutyl)nitrosamine); 4075-79-0 (4-Acetylaminobiphenyl); 4106-66-5 (3-Dibenzofuranamine); 4164-28-7 (Dimethylnitramine); 4245-77-6 (N-Ethyl-N'-nitro-N-nitrosoguanidine); 4342-03-4 (Dacarbazine); 4548-53-2 (FD # C red no. 4); 4680-78-8 (FD and C green no. 1); 4685-14-7 (Paraquat ion); 4812-22-0 (3-Nitro-3-hexene); 4824-78-6 (Bromophos-ethyl); 5036-03-3 (1-(2-Hydroxyethyl)-3-[(5-nitrofurfurylidene)amino]-2-imidazolidinone); 5064-31-3 (Nitrilotriacetic acid, trisodium salt); 5131-60-2 (4-Chloro-m-phenylenediamine); 5141-20-8 (FD and C green no. 2); 5160-02-1 (D # C Red no. 9); 5164-11-4 (1,1-Diallylhydrazine); 5208-87-7 (1'-Hydroxysafrole); 5234-68-4 (Carboxin); 5307-14-2 (2-Nitro-p-phenylenediamine); 5412-25-9 (Bis(2,3-dibromopropyl)phosphate); 5456-28-0; 5522-43-0 (1-Nitropyrene); 5598-13-0 (Chlorpyrifos-methyl); 5632-47-3 (N-Nitrosopiperazine); 5634-39-9; 5834-17-3 (2-Methoxy-3-aminodibenzofuran); 5836-10-2 (Chloropropylate); 5902-51-2 (Terbacil); 5989-27-5 (D-Limonene); 6109-97-3 (3-Amino-9-ethylcarbazole monohydrochloride); 6164-98-3 (Chlordimeform); 6334-11-8 (2,4,6-Trimethylaniline hydrochloride); 6373-74-6 (C.I. Acid orange 3); 6459-94-5 (C.I. Acid red 114); 6533-73-9 (Thallium carbonate); 6923-22-4 (Monocrotophos); 6959-48-4 (3-(Chloromethyl)pyridine hydrochloride); 7008-42-6 (Acronycine); 7227-91-0 (1-Phenyl-3,3-dimethyltriazene); 7287-19-6 (Prometryn); 7347-49-1; 7411-49-6 (3,3',4,4'-Tetraaminobiphenyl tetrahydrochloride); 7422-80-2 (1,1-Dibutylhydrazine); 7439-92-1 (Lead); 7439-96-5 (Manganese); 7439-97-6 (Mercury); 7439-98-7 (Molybdenum); 7440-02-0 (Nickel); 7440-22-4 (Silver); 7440-24-6 (Strontium); 7440-36-0 (Antimony); 7440-38-2 (Arsenic); 7440-39-3 (Barium); 7440-41-7 (Beryllium); 7440-42-8 (Boron); 7440-43-9 (Cadmium); 7440-50-8 (Copper); 7440-66-6 (Zinc); 7446-18-6 (Thallium(i) sulfate); 7446-34-6 (Selenium sulfide); 7487-94-7 (Mercuric chloride); 7572-29-4 (Dichloroacetylene); 7632-00-0 (Sodium nitrite); 7647-01-0 (Hydrogen chloride); 7664-41-7 (Ammonia); 7722-84-1 (Hydrogen peroxide); 7723-14-0 (Phosphorus); 7758-01-2 (Potassium bromate); 7773-06-0 (Ammonium sulfamate); 7782-41-4 (Fluorine); 7782-49-2 (Selenium); 7782-50-5 (Chlorine); 7783-00-8 (Selenious acid); 7783-06-4 (Hydrogen sulfide (H2S); 7784-42-1 (Arsine); 7786-34-7 (Mevinphos); 7791-12-0 (Thallium chloride); 7803-51-2 (Phosphine); 8001-35-2 (Toxaphene); 8001-50-1 (Strobane); 8015-12-1 (Norlestrin); 8015-30-3 (Enovid); 8018-01-7 (Mancozeb); 8065-48-3 (Demeton); 9000-07-1 (Carrageenan); 9006-42-2 (Metiram); 9011-18-1 (Dextran sulfate sodium); 9016-87-9; 9047-13-6 (Amylopectin sulfate); 10028-15-6 (Ozone); 10034-93-2 (Hydrazine sulfate); 10048-13-2 (Sterigmatocystin); 10049-04-4 (Chlorine dioxide); 10102-45-1 (Thallium nitrate); 10108-64-2 (Cadmium chloride); 10124-36-4; 10124-43-3 (Cobalt sulfate); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10318-26-0 (Dibromodulcitol); 10453-86-8 (Resmethrin); 10473-70-8 (1-(4-Chlorophenyl)-1-phenyl-2-propynyl carbamate); 10588-01-9 (Sodium dichromate); 10589-74-9 (1-Amyl-1-nitrosourea); 10595-95-6; 10599-90-3 (Monochloramine); 10605-21-7 (Carbendazim); 11096-82-5 (Aroclor 1260); 11097-69-1 (Aroclor

1254); 12035-72-2 (Nickel subsulfide); 12071-83-9 (Propineb); 12122-67-7; 12427-38-2; 12663-46-6 (Cyclochlorotine); 12674-11-2 (Aroclor 1016); 12789-03-6 (Chlordane); 13010-07-6 (N-Propyl-N'-nitro-N-nitrosoguanidine); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13073-35-3 (Ethionine); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13256-06-9 (Dipentylnitrosamine); 13256-11-6 (Nitroso-N-methyl-N-(2-phenyl)ethylamine); 13292-46-1 (Rifampicin); 13356-08-6 (Fenbutatin oxide); 13457-18-6 (Pyrazophos); 13483-18-6 (Bis-1,2-(Chloromethoxy)-ethane); 13552-44-8 (4,4'-Methylenedianiline dihydrochloride); 13593-03-8 (Quinalphos); 13684-63-4 (Fenmedifam); 13743-07-2 (1-(2-Hydroxyethyl)-1-nitrosourea); 13752-51-7 (N-Oxydiethylene thiocarbamyl-N-oxydiethylene sulfenamide); 14026-30-3; 14484-64-1 (Ferbam); 14504-15-5 (3-Benzylsydnone-4-acetamide); 14698-29-4 (Oxolinic acid); 14797-55-8 (Nitrate); 14797-65-0 (Nitrite); 14816-18-3 (Phoxim); 14901-08-7D (Cycasin); 14998-27-7 (Chlorite); 15216-10-1 (N-Nitrosoazetidine); 15263-53-3 (Cartap); 15299-99-7 (Napropamide); 15541-45-4 (Bromate); 15805-73-9 (Vinyl carbamate); 15973-99-6 (Di(N-nitroso)-perhydropyrimidine); 16065-83-1 (Chromium, III); 16071-86-6 (C.I. Direct brown 95); 16120-70-0 (N-Butyl-N-formylhydrazine); 16219-98-0 (2-Nitrosomethylaminopyridine); 16338-97-9 (Diallylnitrosamine); 16543-55-8 (N'-Nitrosonornicotine); 16568-02-8 (Acetaldehyde methylformylhydrazone); 16672-87-0 (Ethephon); 16699-10-8; 16752-77-5 (Methomyl); 16813-36-8 (1-Nitroso-5,6-dihydrouracil); 17026-81-2 (3-Amino-4-ethoxyacetanilide); 17109-49-8 (Edifenphos); 17608-59-2 (N-Nitrosoephedrine); 17673-25-5 (Phorbol); 17697-53-9; 17697-55-1; 17804-35-2 (Benomyl); 17924-92-4 (Zearalenone); 18181-80-1 (Bromopropylate); 18413-14-4 (Ethylhydrazine hydrochloride); 18523-69-8 (Acetone[4-(5-nitro-2-furyl)2-thiazolyl]-hydrazone); 18540-29-9; 18559-94-9 (Salbutamol); 18774-85-1; 18883-66-4 (Streptozotocin); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazone); 20265-96-7 (P-Chloroaniline hydrochloride); 20325-40-0 (3,3'-Dimethoxybenzidine dihydrochloride); 20570-96-1; 20859-73-8 (Aluminum-phosphide); 20917-49-1; 21087-64-9 (Metribuzin); 21259-20-1 (T-2 Toxin); 21340-68-1 (Methyl clofenapate); 21416-67-1 (ICRF-159); 21436-96-4 (2,4-Xylidine hydrochloride); 21436-97-5 (2,4,5-Trimethylaniline hydrochloride); 21609-90-5 (Leptophos); 21626-89-1 (Diftalone); 21638-36-8 (4-Methyl-1-[(5-nitrofurfurylidene)amino]-2-imidazolidinone); 21739-91-3 (Cytembena); 21884-44-6 (Luteoskyrin); 21928-82-5; 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22260-51-1 (Bromocriptine mesylate); 22494-47-9 (Clobuzarit); 22571-95-5 (Symphytine); 22781-23-3 (Bendiocarb); 22966-79-6 (Estradiol mustard); 22967-92-6; 23031-25-6 (Terbutaline); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23564-05-8 (Thiophanate-methyl); 23746-34-1; 23834-30-2; 23950-58-5 (3,5-Dichloro(N-1,1-dimethyl-2-propynyl)-benzamide); 24017-47-8 (Triazophos); 24235-63-0; 24307-26-4 (Mepiquat chloride); 24358-29-0 (2-Chloro-5-(3,5-dimethylpiperidinosulfonyl)benzoic acid); 24365-47-7 (Leupeptin Ac-LL); 24382-04-5 (Malonaldehyde, sodium salt); 24554-26-5 (N-[4-(5-Nitro-2-furyl)-2-thiazolyl)formamide); 24579-73-5 (Propamocarb); 24589-77-3 (p-Hydrazinobenzoic acid hydrochloride); 24959-67-9 (Bromide ion); 25013-16-5 (Butylated hydroxyanisole); 25057-89-0 (Bentazone); 25311-71-1 (Isofenphos); 25321-14-6 (Dinitrotoluene); 25812-30-0 (Gemfibrozil); 25843-45-2 (Azoxymethane); 26002-80-2 (Phenothrin); 26049-68-3 (2-Hydrazino-4-(5-nitro-2-furyl)thiazole); 26049-69-4 (2-(2,2-Dimethylhydrazino)-4-(5-nitro-2-furyl)-thiazole); 26049-70-7 (2-Hydrazino-4-(p-nitrophenyl)thiazole); 26049-71-8 (2-Hydrazino-4-(p-aminophenyl)thiazole); 26072-78-6 (1,2-Diallylhydrazine dihydrochloride); 26148-68-5 (AaC); 26308-28-1 (Ripazepam); 26471-62-5 (Toluene diisocyanate); 26541-51-5 (N-Nitrosothiomorpholine); 26628-22-8 (Sodium azide); 26644-46-2 (Triforine); 26921-68-6 (N-Nitrosomethyl-(2-hydroxyethyl)amine); 27314-13-2 (Norflurazon); 27753-52-2 (Nonabromobiphenyl); 28249-77-6 (Thiobencarb); 28407-37-6 (C.I. Direct blue 218); 28434-01-7 (Bioresmethrin); 28754-68-9 (trans-5-Amino-3[2-(5-nitro-2-furyl)vinyl]-1,2,4-oxadiazole); 29069-24-7 (Prednimustine); 29232-93-7 (Pirimiphos-methyl); 29611-03-8 (Aflatoxicol); 29929-77-9; 29973-13-5 (Ethiofencarb); 30516-87-1 (AZT); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 32180-65-7 (2,5-Dimethoxy-4'-aminostilbene); 32534-81-9 (Pentabromodiphenyl ether); 32536-52-0 (Octabromodiphenyl ether); 32809-16-8 (Procymidone); 32852-21-4 (Formic acid 2-(4-methyl-2-thiazolyl)hydrazide); 33089-61-1 (Amitraz); 33372-39-3 (4-Bis(2-hydroxyethyl)-amino-2-(5-nitro-2-thienyl)-quinazoline); 33389-33-2 (1,2-Dihydro-2-(5-nitro-2-thienyl)quinazolin-4(3H)-one); 33389-36-5 (4-(2-Hydroxyethylamino)-2-(5-nitro-2-thienyl)-quinazoline); 33433-82-8 (Calcium valproate); 33637-

16-0; 33820-53-0 (Isopropalin); 33868-17-6 (Methylnitrosocyanamide); 33979-15-6 (Clivorine); 34014-18-1 (Tebuthiuron); 34465-46-8 (Hexachlorodibenzo-p-dioxin); 34627-78-6 (1'-Acetoxysafrole); 35367-38-5 (Diflubenzuron); 35554-44-0 (Imazalil); 36133-88-7 (N-[[3-(5-Nitro-2-furyl)-1,2,4-oxadiazol-5-yl]methyl]acetamide); 36702-44-0; 36734-19-7 (Iprodione); 37871-00-4 (HCDD); 38260-54-7 (Etrimfos); 38347-74-9 (3-Nitroso-2-oxazolidinone); 38434-77-4 (Ethylnitrosocyanamide); 38514-71-5 (2-Amino-4-(5-nitro-2-furyl)thiazole); 38571-73-2 (Tris-1,2,3-(chloromethoxy)propane); 38777-13-8 (Nitroso-Baygon); 39148-24-8 (Fosetyl Al); 39156-41-7 (2,4-Diaminoanisole sulfate); 39300-45-3 (Dinocap); 39515-41-8 (Fenpropathrin); 39801-14-4 (Photomirex); 39884-52-1 (N-Nitroso-1,3-oxazolidine); 40487-42-1 (Pendimethalin); 40548-68-3 (Tetrahydro-2-nitroso-2H-1,2-oxazine); 40580-89-0; 40596-69-8 (Methoprene); 41083-11-8 (Azocyclotin); 41198-08-7 (Profenofos); 42011-48-3 (2,2,2-Trifluoro-N-[4-(5-nitro-2-furyl)-2-thiazolyl]-acetamide); 42579-28-2 (1-Nitrosohydantoin); 42874-03-3 (Oxyfluorfen); 43033-72-3; 43121-43-3 (Triadimefon); 49866-87-7 (Difenzoquat); 50471-44-8 (Vinclozolin); 50594-66-6 (Acifluorfen); 50892-23-4 ([4-Chloro-6-(2,3-xylidino)-2-pyrimidinylthio]-acetic acid); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51325-35-0 (N,N'-[6-(5-Nitro-2-furyl)-S-triazine-2,4-diyl]-bisacetamide); 51333-22-3 (Budesonide); 51410-44-7 (1'-Hydroxyestragole); 51542-33-7 (N-Nitrosobenzthiazuron); 51630-58-1 (Fenvalerate); 51786-53-9 (2,5-Xylidine hydrochloride); 52207-83-7 (Allylhydrazine hydrochloride); 52214-84-3 (Ciprofibrate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53609-64-6 (N-Nitrosobis(2-hydroxypropyl)amine); 53757-28-1 (4-(5-Nitro-2-furyl)thiazole); 54749-90-5 (Chlorozotocin); 54965-24-1 (Tamoxifen citrate); 55090-44-3 (N-Nitroso-N-methyl-N-dodecylamine); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55285-14-8 (Carbosulfan); 55290-64-7 (Dimethipin); 55380-34-2; 55556-92-8; 55557-00-1 (Dinitrosohomopiperazine); 55600-34-5 (Clophen A 30); 55738-54-0 (trans-2-[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole); 55984-51-5 (N-Nitrosomethyl(2-oxopropyl)amine); 56222-35-6 (N-Nitroso-3-hydroxypyrrolidine); 56425-91-3 (Flurprimidol); 56654-52-5 (1,3-Dibutyl-1-nitrosourea); 56795-65-4; 56795-66-5 (Propylhydrazine hydrochloride); 56894-91-8; 57018-04-9 (Tolclofos-methyl); 57497-29-7; 57497-34-4; 57527-64-7; 57590-20-2 (Pentanal N-methyl N-formylhydrazone); 57590-21-3; 57590-22-4; 57837-19-1 (Metalaxyl); 58138-08-2 (Tridiphane); 58139-48-3 (4-Morpholino-2-(5-nitro-2-thienyl)quinazoline); 59669-26-0 (Thiodicarb); 59756-60-4 (Fluridone); 60102-37-6 (Petasitenine); 60142-96-3 (1-(Aminomethyl)cyclohexaneacetic acid); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60391-92-6 (Carboxymethylnitrosourea); 60568-05-0 (Furmecyclox); 60599-38-4 (N-Nitrosobis(2-oxopropyl)amine); 61034-40-0 (1-Nitroso-3,5-dimethyl-4-benzoylpiperazine); 63019-65-8; 63412-06-6 (N-Methyl-N-nitrosobenzamide); 63642-17-1 (Nd-(N-Methyl-N-nitrosocarbamoyl)-L-ornithine); 63886-77-1; 64005-62-5 (N-Nitroso-N-amylurethane); 64091-91-4 (4-(Methylnitrosamino)-1-(3-pyridyl)-1-(butanone); 64902-72-3 (Chlorsulfuron); 65089-17-0; 65176-75-2 (5,6-Dimethoxysterigmatocystin); 65195-55-3 (Avermectin b1a); 65734-38-5 (N'-Acetyl-4-(hydroxymethyl)-phenylhydrazine); 66215-27-8 (Cyromazine); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 66398-63-8; 66841-25-6 (Tralomethrin); 67375-30-8; 67485-29-4 (Hydramethylnon); 67564-91-4; 67730-10-3 (Glu-P-2); 67730-11-4 (Glu-P-1); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68107-26-6 (Nitrosomethylundecylamine); 68359-37-5 (Cyfluthrin); 69112-98-7; 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 69644-85-5; 69770-45-2 (Flumethrin); 69806-34-4 (Haloxyfop); 69806-40-2 (Haloxyfop-methyl); 70124-77-5 (Flucythrinate); 70415-59-7; 71626-11-4 (Benalaxyl); 71751-41-2 (Abamectin); 71752-70-0 (1-(3-Hydroxypropyl)-1-nitrosourea); 72178-02-0 (Fomesafen); 72254-58-1; 72716-75-7 (Lupitidine hydrochloride); 73590-58-6 (Omeprazole); 73634-73-8 (N-Acetyl-glufosinate); 74051-80-2 (Sethoxydim); 74115-24-5 (Clofentezine); 74223-64-6 (Metsulfuron-methyl); 74920-78-8 (N-Ethyl-N-formylhydrazine); 75104-43-7 (Trp-P-1 acetate); 75195-76-5 (N'-Nitrosonornicotine-1-N-oxide); 75198-31-1; 75330-75-5 (Lovastatin); 75411-83-5 (N-Nitrosomethyl-2-hydroxy-propylamine); 75881-18-4 (1-Nitroso-3,4,5-trimethylpiperazine); 75881-20-8; 75881-22-0 (N-Nitroso-N-methyldecylamine); 75896-33-2; 76014-81-8 (4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanol); 76180-96-6 (IQ); 76578-14-8 (Quizalofop-ethyl); 76738-62-0 (Paclobutrazol); 76956-02-0 (Loxtidine); 77094-11-2 (MeIQ); 77182-82-2 (Glufosinate-ammonium); 77337-54-3 (N-Propyl-N-formylhydrazine); 77500-04-0 (MeIQx); 77501-63-4 (Lactofen); 78587-05-0 (Hexythiazox); 78776-28-0; 79277-27-3 (Harmony); 79520-77-7; 79624-33-2; 79983-71-4

(Hexaconazole); 80844-07-1 (Etofenprox); 81335-37-7 (Imazaquin); 81335-77-5 (Pursuit); 81795-07-5; 82018-90-4; 82097-50-5 (Triasulfuron); 82558-50-7 (Isoxaben); 82657-04-3 (Bifenthrin); 83055-99-6 (Londax); 83121-18-0 (Teflubenzuron); 83335-32-4; 84545-30-2; 85509-19-9 (Flusilazole); 86315-52-8 (Isomazole); 86386-73-4 (Fluconazole); 86451-37-8; 86811-58-7 (Fluazuron); 87260-82-0; 88107-10-2 (LY171883); 88133-11-3 (Bemitradine); 88208-16-6; 88671-89-0 (Myclobutanil); 89837-93-4; 89911-78-4; 89911-79-5; 90982-32-4 (Chlorimuron-ethyl); 91308-69-9; 91308-70-2 (N-Nitroso-N-allyl-2-hydroxypropylamine); 91308-71-3; 92177-49-6; 92177-50-9; 93957-54-1 (Fluvastatin); 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96724-44-6; 96724-45-7 (1-(2-Hydroxyethyl)nitroso-3-ethylurea); 96806-34-7; 96806-35-8; 98319-26-7 (Finasteride); 99129-21-2 (Clethodim); 100643-96-7 (Indolidan); 101200-48-0 (Express); 101205-02-1 (Cycloxydim); 102769-91-5; 107534-96-3 (Tebuconazole); 110559-84-7; 110559-85-8; 112410-23-8 (Tebufenozide); 112636-83-6 (Dicyclanil); 114369-43-6 (Fenbuconazole); 116355-83-0 (Fumonisin B1); 120068-37-3 (Fipronil); 120109-55-9; 122001-31-4; 122784-89-8 (SDZ 200-110); 134098-61-6 (Fenpyroximate); 138261-41-3 (Imidacloprid); 142713-78-8; 143390-89-0 (Kresoxim-methyl); 148940-78-7; 168316-95-8 (Spinosad); 271241-42-0; 863378-87-4 (3-Diazotyramine hydrochloride); 881181-37-9 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study)   (human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment); 7440-61-1D (Uranium) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study)   (sol.; human toxicol. effect and damage factors of carcinogenic and noncarcinogenic chems. for life cycle impact assessment)

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Citations: Hertwich, E; Life-cycle impact assessment:Striving towards best practice, Ch 4 2002
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Citations: Hofstetter, P; Perspectives in life cycle impact assessment:A structured approach to combine models of the technosphere, ecosphere and valuesphere 1998, 484
Citations: Hofstetter, P; Risk Analysis 2002, 22, 965
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Citations: Huijbregts, M; Human-toxicological effect and damage factors for life cycle impact assessment of carcinogenic and noncarcinogenic chemicals, Report 253 2004
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Citations: Vermeire, T; Probabalistic assessment factors for human health risk assessment-A practical guide, Report 601516005 2001
Citations: Vermeire, T; Crit Rev Toxicol 1999, 29, 439
Citations: Vermeire, T; Sci Total Environ 1993, 136, 55
Citations: Wilkinson, C; Regul Toxicol Pharmacol 2000, 31, 30 Chem. fate, effect, and damage should be accounted for in the anal. of human health impacts by toxic chems. in life cycle assessment (LCA). The goal of this article is to present a new method to derive human damage and effect factors of toxic pollutants, starting from a lognormal dose-response function. Human damage factors are expressed as disability-adjusted life-years (DALYs). Human effect factors contain a disease-specific and a substance-specific component. The disease-specific component depends on the probability of disease occurrence and the distribution of sensitivities in the human population. The substance-specific component, equal to the inverse of the ED50, represents the toxic potency of a substance. The new method has been applied to calc. combined human damage and effect factors for 1192 substances. The total range of 7-9 orders of magnitude between the substances is dominated by the range in toxic potencies. For the combined factors, the typical uncertainty, represented by the square root of the ratio of the 97.5th and 2.5th percentiles, is a factor of 25 for carcinogenic effects and a factor of 125 for noncarcinogenic effects. The interspecies conversion factor, the (non)cancer effect conversion factor, and the av. noncancer damage factor dominate the overall uncertainty. [on SciFinder (R)] 1551-3777 human/ toxicity/ carcinogenic/ noncarcinogenic/ chem/ life/ cycle/ impact/ assessment

570. Humeniuk, R. E., Ong, J., Kerr, D. I., and White, J. M. (Characterization of Gabab Ligands in Vivo. *Gen pharmacol. 1995, mar; 26(2):417-24. [General pharmacology]: Gen Pharmacol.*
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

ABSTRACT: 1. While GABAB antagonists have been examined in vitro, very few have been tested in vivo. A range of GABAB antagonists were tested against baclofen-induced muscle relaxation and hypothermia. 2. The GABAB antagonists exhibited a range of in vivo activity profiles. 3. CGP 35348 showed clear antagonist effects, while BPBA and 4-ABPA appeared to have agonist properties. 4. Phaclofen, 2-hydroxysaclofen, 3-APPA and 9G seemed to have little effect in this system at the doses tested. 5. Differences between in vivo and in vitro activity could be explained by differences in blood-brain barrier permeability, or possible differences in affinities for the sub-classes of GABAB receptors.
MESH HEADINGS: Animals
MESH HEADINGS: Baclofen/analogs &amp
MESH HEADINGS: derivatives/antagonists &amp
MESH HEADINGS: inhibitors/pharmacology
MESH HEADINGS: Drug Interactions
MESH HEADINGS: Female
MESH HEADINGS: GABA Antagonists/*pharmacology
MESH HEADINGS: Ligands
MESH HEADINGS: Mice
MESH HEADINGS: Mice, Inbred BALB C
MESH HEADINGS: Muscle Relaxation/drug effects

MESH HEADINGS: Organophosphorus Compounds/pharmacology
MESH HEADINGS: Receptors, GABA-B/*antagonists &amp
MESH HEADINGS: inhibitors
MESH HEADINGS: beta-Alanine/analogs &amp
MESH HEADINGS: derivatives/pharmacology
LANGUAGE: eng

571. Hummel, Susan V. and Yost, Richard A (1986). Tandem mass spectrometry of organophosphate and carbamate pesticides. *Organic Mass Spectrometry* 21: 785-91.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1987:515651
Chemical Abstracts Number: CAN 107:115651
Section Code: 29-7
Section Title: Organometallic and Organometalloidal Compounds
CA Section Cross-References: 5, 22
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphate and carbamate, tandem quadrupole mass spectrometry of); Mass spectroscopy (tandem, of organophosphate and carbamate pesticides)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 141-66-2 (Dicrotophos); 298-00-0; 298-04-4 (Disulfoton); 315-18-4 (Mexacarbate); 333-41-5 (Diazinon); 732-11-6; 759-94-4; 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 1114-71-2 (Pebulate); 1563-66-2; 1929-77-7 (Vernolate); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 2941-55-1 (Ethiolate); 4824-78-6 (Bromophos ethyl); 5598-13-0; 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 8065-36-9 (Bufencarb); 16752-77-5 (Methomyl); 18181-70-9 (Iodofenphos); 22781-23-3 (Bendiocarb); 23505-41-1 (Pirimiphos-ethyl); 28249-77-6 (Thiobencarb); 29232-93-7 (Pirimiphos-methyl) Role: PRP (Properties) (tandem mass spectrometry of) Tandem quadrupole mass spectrometric data for 26 organophosphate and 16 carbamate pesticides are presented. These data are of use in developing methods for screening samples for specific compds. (by selected reaction monitoring) or specific classes of compds. (by parent scans and neutral loss scans). Optimization of tandem mass spectrometry for max. sensitivity is also described. [on SciFinder (R)] 0030-493X mass/ spectra/ organophosphate/ carbamate/ pesticide;/ tandem/ mass/ spectra/ organophosphate/ carbamate

572. Hungund, B. L., Basavarajappa, B. S., Vadasz, C., Kunos, G., Rodriguez De Fonseca, F., Colombo, G., Serra, S., Parsons, L., and Koob, G. F. (Ethanol, Endocannabinoids, and the Cannabinoidergic Signaling System. *Alcohol clin exp res. 2002, apr; 26(4):565-74. [Alcoholism, clinical and experimental research]: Alcohol Clin Exp Res*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: This article represents the proceedings of a symposium at the 2001 annual meeting of the Research Society on Alcoholism in Montreal, Canada. The chairpersons were Appa Hungund and George Koob. The presentations were (1) Role of endocannabinoids in ethanol tolerance, by Appa Hungund; (2) Modulation of cannabinoid receptor and its signal transduction in chronic alcoholism, by B. S. Basavarajappa; (3) Endocannabinoid involvement in the control of appetitive behavior, by George Kunos; (4) Regulation of voluntary ethanol intake by cannabinoid receptor agonists and antagonists in alcohol-preferring sP rats, by Giancarlo Colombo; (5) Role of endogenous cannabinoid system in alcoholism, by Fernado Rodriguez de Fonseca; and (6) Endocannabinoids and dopamine interactions in vivo, by Loren Parsons and George Koob.
MESH HEADINGS: Alcoholism/drug therapy/metabolism

MESH HEADINGS: Animals
MESH HEADINGS: Cannabinoids/*pharmacology/therapeutic use
MESH HEADINGS: Central Nervous System Depressants/pharmacology
MESH HEADINGS: Dopamine/metabolism
MESH HEADINGS: Endocannabinoids
MESH HEADINGS: Ethanol/*pharmacology
MESH HEADINGS: Humans
MESH HEADINGS: Receptors, Cannabinoid
MESH HEADINGS: Receptors, Drug/agonists/antagonists &amp
MESH HEADINGS: inhibitors/*physiology
MESH HEADINGS: Signal Transduction/*drug effects/*physiology
LANGUAGE: eng

573. Hurej, M. and Dutcher, J. D. (1994). Indirect Effect of Insecticides on Convergent Lady Beetle (Coleoptera: Coccinellidae) in Pecan Orchards. *J.Econ.Entomol.* 87: 1632-1635.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO CONC.

574. Hutter, Wolfgang and Bodenseh, Hans-Karl (1993). Cross-conjugated compounds: microwave spectrum of 4,4-dimethyl-2,5-cyclohexadien-1-one. *Journal of Molecular Structure* 291: 151-158.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

4,4-Dimethyl-2,5-cyclohexadien-1-one has been prepared by a three-step reaction from 4,4-dimethyl-2-cyclohexen-1-one. Microwave transitions of the cross-conjugated compound have been measured over extended regions from 11 to 40 GHz. The spectrum is a classical a-type spectrum of a near-prolate top with many interspersed lines presumably originating from excited vibrational states. No internal rotation splitting could be observed. We were able to assign 108 rotational transitions with J-quantum numbers up to 40. The least-squares fit showed a standard deviation of 30 kHz and yielded the three rotational constants, A = 3332.158(13) MHz, B = 1193.07386(52) MHz, C = 1082.21280(45) MHz, as well as all five quartic centrifugal distortion constants from Watson's A-reduction: [Delta]J = 0.02149(73) kHz, [Delta]JK = 1.1008(16) kHz, [Delta]K = -68.42(32) kHz, [delta]J = 0.00332(16) kHz, [delta]K = -2.7513(99) kHz (representation IR used). The dipole moment was determined from the Stark shift of the M-components of two transitions and was found to be 4.4522(83) D from 93 measurements.
http://www.sciencedirect.com/science/article/B6TGS-44K8724-ST/2/a9ba876367451377b8f01d2ae5bc6a2a

575. Huuskonen, Jarmo (2001). Estimation of water solubility from atom-type electrotopological state indices. *Environmental Toxicology and Chemistry* 20: 491-497.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:352897
Chemical Abstracts Number: CAN 135:50449
Section Code: 60-4
Section Title: Waste Treatment and Disposal
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Hazardous wastes; Pesticides; Simulation and Modeling; Soil reclamation; Solubility; Wastewater treatment (estn. of water soly. from atom-type electrotopol. state indexes); Organic compounds Role: POL (Pollutant), PRP (Properties), OCCU (Occurrence) (estn. of water soly. from atom-type electrotopol. state indexes)
CAS Registry Numbers: 50-06-6 (Phenobarbital); 50-29-3 (p,p'-Ddt); 50-78-2 (Acetylsalicylic acid); 56-38-2 (Parathion); 56-49-5 (3-Methylcholanthrene); 56-72-4 (Coumaphos); 57-41-0 (Phenytoin); 58-22-0 (Testosterone); 58-55-9 (Theophylline); 58-89-9 (Lindane); 60-51-5

(Dimethoate); 60-80-0 (Antipyrine); 62-73-7 (Dichlorvos); 67-20-9 (Nitrofurantoin); 77-09-8 (Phenolphthalein); 86-50-0 (Azinphos methyl); 94-09-7 (Benzocaine); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 133-06-2 (Captan); 314-40-9 (Bromacil); 327-98-0 (Trichloronate); 330-54-1 (Diuron); 333-41-5 (Diazinon); 363-24-6 (prostaglandin E2); 439-14-5 (Diazepam); 470-90-6 (Chlorfenvinfos); 732-11-6 (Phosmet); 786-19-6 (Carbofenthion); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1861-40-1 (Benfluralin); 1912-24-9 (Atrazine); 1929-82-4 (Nitrapyrin); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2163-69-1; 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2497-06-5 (Disulfoton sulfone); 2642-71-9 (Azinphos ethyl); 2921-88-2 (Chlorpyriphos); 3060-89-7 (Metobromuron); 3383-96-8 (Temephos); 4824-78-6 (Bromophos ethyl); 5103-71-9 (a-Chlordane); 6164-98-3 (Chlordimeform); 13071-79-9 (Terbufos); 13360-45-7 (Chlorbromuron); 14816-18-3 (Phoxim); 15545-48-9 (Chlortoluron); 16752-77-5 (Methomyl); 19666-30-9 (Oxadiazon); 19937-59-8 (Metoxuron); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphos ethyl); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 27355-22-2 (Tetrachlorophthalide); 28805-78-9 (Isonoruron); 29091-05-2 (Dinitramine); 29232-93-7 (Pirimiphos methyl); 33820-53-0 (Isopropalin); 34123-59-6 (Isoproturon); 37680-73-2 (2,2',4,5,5'-Pentachlorobiphenyl); 51707-55-2; 55283-68-6 (Ethalfluralin) Role: POL (Pollutant), PRP (Properties), OCCU (Occurrence)   (estn. of water soly. from atom-type electrotopol. state indexes)

Citations: 1) Yalkowsky, S; Aqueous Solubility: Methods of Estimation for Organic Compounds 1992
Citations: 2) Lipinski, C; Adv Drug Del Rev 1997, 23, 3
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Citations: 8) Nirmalakhandan, N; Environ Sci Technol 1988, 22, 328
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Citations: 11) Huuskonen, J; J Pharm Sci 1997, 86, 450
Citations: 12) Huibers, P; J Chem Inf Comput Sci 1998, 38, 283
Citations: 13) Huuskonen, J; J Chem Inf Comput Sci 1998, 38, 450
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Citations: 16) Yalkowsky, S; AQUASOL dATAbASE of Aqueous Solubility 1990
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Citations: 23) Abou-Shaaban, R; Pharm Res 1996, 13, 129
Citations: 24) Bualamwini, J; Pharm Res 1996, 13, 1892
Citations: 25) De Gregorio, C; J Comput Aided Mol Des 1998, 1, 557
Citations: 26) Gough, J; Environ Toxicol Chem 1999, 18, 1069

Based on the atom-type electrotopol. state (E-state) indexes, a quant. structure-property relationship model for the prediction of aq. soly. for a diverse set of 745 org. compds. is presented. The multiple linear regression anal. was used to build the models. A training set of 674 compds., contg. 349 liqs. and 325 solids and with a range of aq. soly. (log S) from 2.77 to -11.62, was obtained from the literature. For this set, the squared correlation coeff. and std. deviation for a linear model with 31 atom-type E-state indexes and 3 simple correction factors were r2 =0.94 and s =0.58 (log units), resp. The corresponding statistics for the test sets not included in the training set were, for a set of 50 pesticides, r2 =0.79 and s =0.81 and, for a set of 21 drug and pesticide compds., r2 =0.83 and s =0.84, resp. The contribution of m.ps. was also evaluated. The use of m.p. increased the accuracy of the models in the fit of the training set but not in the prediction of the test sets. Hence, the

proposed method offers fast and accurate estn. of aq. soly. of org. compds. using atom-type E-state indexes without the need of any exptl. parameters like the m.ps. [on SciFinder (R)] 0730-7268
water/ soly/ org/ atom/ type/ electrotopol/ state/ index

576. Huuskonen, Jarmo (2003). Prediction of Soil Sorption Coefficient of a Diverse Set of Organic Chemicals From Molecular Structure. *Journal of Chemical Information and Computer Sciences* 43: 1457-1462.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Database: CAPLUS
Accession Number: AN 2003:509086
Chemical Abstracts Number: CAN 139:196850
Section Code: 19-2
Section Title: Fertilizers, Soils, and Plant Nutrition
Document Type: Journal
Language: written in English.
Index Terms: Lipophilicity (in prediction of soil sorption coeff. of org. chems. from mol. structure); Simulation and Modeling; Soils; Sorption (prediction of soil sorption coeff. of org. chems. from mol. structure); Organic compounds Role: PEP (Physical, engineering or chemical process), PYP (Physical process), PROC (Process) (prediction of soil sorption coeff. of org. chems. from mol. structure)
CAS Registry Numbers: 2939-80-2 (cis-Captafol) Role: PEP (Physical, engineering or chemical process), PYP (Physical process), PROC (Process) (cis-Captafol; prediction of soil sorption coeff. of org. chems. from mol. structure); 50-29-3 (4,4'-DDT); 51-66-1 (4-Methoxyacetanilide); 52-68-6 (Trichlorfon); 53-70-3 (Dibenz(1,2;5,6)anthracene); 54-11-5 (Nicotine); 55-21-0 (Benzamide); 55-38-9 (Fenthion); 56-04-2 (Metacil); 56-38-2 (Parathion); 56-49-5 (3-Methylcholanthrene); 56-53-1 (Diethylstilbestrol); 56-55-3 (Benz[a]anthracene); 57-55-6 (Propyleneglycol); 57-74-9; 57-97-6; 58-89-9 (Lindane); 58-90-2 (2,3,4,6-Tetrachlorophenol); 60-09-3 (p-Phenylazoaniline); 60-11-7 (4-(Dimethylamino)azobenzene); 60-12-8 (2-Phenylethanol); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 61-82-5 (Amitrole); 62-23-7 (4-Nitrobenzoic acid); 62-53-3 (Aniline); 62-55-5 (Thioacetamide); 62-56-6 (Thiourea); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 63-99-0 (3-Methylphenylurea); 64-10-8 (Phenylurea); 64-17-5 (Ethanol); 64-19-7 (Acetic acid); 65-85-0 (Benzoic acid); 67-56-1 (Methanol); 71-23-8 (1-Propanol); 71-36-3 (1-Butanol); 71-41-0 (1-Pentanol); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9 (4,4'-DDE); 74-83-9 (Methyl bromide); 75-99-0 (Dalapon); 76-06-2 (Chloropicrin); 76-44-8 (Heptachlor); 78-48-8 (Tribufos); 78-59-1 (Isophorone); 81-81-2 (Warfarin); 82-28-0; 82-68-8 (Pentachloronitrobenzene); 83-32-9 (Acenaphthene); 84-65-1 (9,10-Anthracenedione); 84-66-2 (Diethyl phthalate); 84-69-5 (Di-isobutyl phthalate); 84-74-2; 84-75-3 (Di-n-hexyl phthalate); 85-01-8 (Phenanthrene); 85-02-9 (Benzo[f]quinoline); 85-34-7 (Fenac); 85-44-9 (1,3-Isobenzofurandione); 85-68-7 (n-Butyl benzyl phthalate); 85-70-1 (2-Butoxy-2-oxoethyl butyl phthalate); 86-30-6 (N-Nitrosodiphenylamine); 86-50-0 (Azinphos-methyl); 86-73-7 (Fluorene); 86-74-8 (Carbazole); 86-86-2 (1-Naphthaleneacetamide); 86-87-3 (1-Naphthaleneacetic acid); 87-86-5 (Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 88-85-7 (Dinoseb); 88-99-3 (Phthalic acid); 90-05-1 (2-Methoxyphenol); 90-15-3 (1-Naphthol); 90-94-8 (4,4'-Bis(dimethylamino)benzophenone); 91-01-0 (Diphenylmethanol); 91-16-7 (1,2-Dimethoxybenzene); 91-17-8 (Decahydronaphthalene); 91-20-3 (Naphthalene); 91-22-5 (Quinoline); 91-80-5 (Methapyrilene); 92-24-0 (Tetracene); 92-52-4 (Biphenyl); 92-82-0 (Phenazine); 93-08-3; 93-58-3 (Methyl benzoate); 93-65-2 (Mecoprop); 93-72-1 (Silvex); 93-76-5; 93-89-0 (Ethyl benzoate); 93-99-2 (Phenyl benzoate); 94-08-6 (Ethyl 4-methylbenzoate); 94-59-7 (Safrole); 94-74-6 (MCPA); 94-75-7 (2,4-D Acid); 95-14-7 (1H-Benzotriazole); 95-15-8 (Benzo[b]thiophene); 95-57-8 (2-Chlorophenol); 95-76-1 (3,4-Dichloroaniline); 95-77-2 (3,4-Dichlorophenol); 95-95-4 (2,4,5-Trichlorophenol); 96-12-8 (DBCP); 98-16-8 (3-Trifluoromethylaniline); 98-95-3 (Nitrobenzene); 99-09-2 (3-Aminonitrobenzene); 99-30-9 (Dicloran); 99-54-7 (3,4-Dichloronitrobenzene); 99-77-4 (Ethyl 4-nitrobenzoate); 99-94-5 (4-Methylbenzoic acid); 99-96-7 (4-Hydroxybenzoic acid); 100-01-6 (4-Aminonitrobenzene); 100-

02-7 (4-Nitrophenol); 100-54-9 (3-Cyanopyridine); 100-61-8 (N-Methylaniline); 100-66-3 (Anisole); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 101-42-8 (Fenuron); 101-61-1 (4,4'-Methylenebis(N,N-dimethylaniline); 101-77-9 (4,4'-Methylenedianiline); 101-84-8 (Diphenyl ether); 101-97-3 (Ethyl phenylacetate); 101-99-5 (Ethyl-N-phenylcarbamate); 103-23-1 (Di(2-ethylhexyl)adipate); 103-33-3 (Azobenzene); 103-74-2 (2-Pyridineethanol); 103-82-2 (Phenylacetic acid); 103-84-4 (Acetanilide); 103-88-8; 106-30-9 (Ethyl heptanoate); 106-32-1 (Ethyl octanoate); 106-40-1 (4-Bromoaniline); 106-41-2 (4-Bromophenol); 106-44-5 (4-Methylphenol); 106-47-8 (4-Chloroaniline); 106-49-0 (4-Methylaniline); 106-89-8 (Epichlorohydrin); 108-43-0 (3-Chlorophenol); 108-44-1 (3-Methylaniline); 108-46-3 (3-Hydroxyphenol); 108-95-2 (Phenol); 111-27-3 (1-Hexanol); 111-44-4 (Bis-(2-chloroethyl) ether); 111-70-6 (1-Heptanol); 111-87-5 (1-Octanol); 112-30-1 (1-Decanol); 114-26-1 (Propoxur); 114-38-5 (2-Chlorophenylurea); 115-28-6 (Chlorendic acid); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 117-18-0; 117-81-7 (Di-2-ethylhexyl-phthalate); 117-84-0 (Di-n-octylphthalate); 118-75-2 (Chloranil); 119-61-9 (Benzophenone); 119-91-5 (2,2'-Biquinoline); 120-12-7 (Anthracene); 120-47-8 (Ethyl 4-hydroxybenzoate); 120-80-9 (Catechol); 120-83-2 (2,4-Dichlorophenol); 121-69-7 (N,N-Dimethylaniline); 121-75-5 (Malathion); 121-81-3 (3,5-Dinitrobenzamide); 122-14-5 (Fenitrothion); 122-28-1; 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 122-66-7 (1,2-Diphenylhydrazine); 123-33-1 (Maleic hydrazide); 123-66-0 (Ethyl hexanoate); 123-91-1 (1,4-Dioxane); 128-66-5 (Dibenzo[b,def]chrysene-7,14-dione); 129-00-0 (Pyrene); 131-11-3 (Dimethyl phthalate); 132-64-9 (Dibenzofuran); 132-65-0 (Dibenzothiophene); 133-06-2 (Captan); 133-07-3 (Folpet); 133-90-4 (Chloramben); 134-32-7 (1-Naphthylamine); 137-26-8 (Thiram); 139-40-2 (Propazine); 139-65-1 (4,4'-Thiodianiline); 141-66-2 (Dicrotophos); 142-62-1 (Hexanoic acid); 143-08-8 (1-Nonanol); 143-50-0 (Chlordecone); 145-73-3; 148-79-8 (Thiabendazol); 149-30-4 (2(3H)-Benzothiazolethione); 150-19-6 (3-Methoxyphenol); 150-68-5 (Monuron); 151-56-4 (Aziridine); 189-55-9 (Benzo[rst]pentaphene); 191-24-2 (Benzo[ghi]perylene); 193-39-5 (Indeno(1,2,3-CD)pyrene); 194-59-2 (7H-Dibenzo[c,g]carbazole); 206-44-0 (Fluoranthene); 207-08-9 (Benzo[k]fluoranthene); 208-96-8 (Acenaphthylene); 225-51-4 (Benz[c]acridine); 239-64-5 (13H-Dibenzo[a,i]carbazole); 260-94-6 (Acridine); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 314-42-1 (Isocil); 330-39-2; 330-54-1 (Diuron); 330-55-2 (Linuron); 332-33-2; 333-41-5 (Diazinon); 351-28-0; 351-36-0 (3-Trifluoromethylacetanilide); 351-83-7 (4-Fluoroacetanilide); 366-18-7 (2,2'-Dipyridine); 470-90-6 (Chlorfenvinphos); 492-80-8; 510-15-6 (Chlorobenzilate); 527-20-8 (Pentachloroaniline); 528-45-0 (3,4-Dinitrobenzoic acid); 533-17-5; 537-92-8 (3-Methylacetanilide); 539-82-2 (Ethyl pentanoate); 542-75-6 (1,3-Dichloropropene); 554-00-7 (2,4-Dichloroaniline); 555-37-3 (Neburon); 556-61-6 (Methyl isothiocyanate); 563-12-2 (Ethion); 576-24-9 (2,3-Dichlorophenol); 586-78-7 (4-Bromonitrobenzene); 587-34-8 (3-(3-Chlorophenyl)-1,1-dimethylurea); 588-07-8 (3-Chloroacetanilide); 591-35-5 (3,5-Dichlorophenol); 594-65-0 (Trichloroacetamide); 608-31-1 (2,6-Dichloroaniline); 609-19-8 (3,4,5-Trichlorophenol); 609-66-5 (2-Chlorobenzamide); 610-15-1 (2-Nitrobenzamide); 613-13-8 (2-Aminoanthracene); 613-93-4 (N-Methylbenzamide); 616-40-0 (N,N-Diethylhydrazine); 618-71-3 (Ethyl 3,5-dinitrobenzoate); 618-87-1 (3,5-Dinitroaniline); 619-55-6 (4-Methylbenzamide); 619-80-7 (4-Nitrobenzamide); 621-38-5 (3-Bromoacetanilide); 626-43-7 (3,5-Dichloroaniline); 632-58-6 (Tetrachlorophthalic acid); 634-67-3 (2,3,4-Trichloroaniline); 634-83-3 (2,3,4,5-Tetrachloroaniline); 645-09-0 (3-Nitrobenzamide); 651-85-4; 656-31-5 (2-Fluorophenylurea); 659-30-3 (4-Fluorophenylurea); 673-04-1 (Simetone); 685-91-6; 709-98-8 (Propanil); 723-62-6 (Anthracene-9-carboxylic acid); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 759-94-4 (Eptam); 770-19-4; 779-02-2 (9-Methylanthracene); 786-19-6 (Carbophenothion); 834-12-8 (Ametryn); 842-07-9 (1-(Phenylazo)-2-naphthalenol); 879-39-0; 886-50-0 (Terbutryn); 886-59-9; 919-86-8 (Demeton-S-methyl); 933-78-8 (2,3,5-Trichlorophenol); 944-22-9 (Dyfonate); 950-37-8 (Methidathion); 953-17-3 (Carbophenothion methyl); 957-51-7 (Diphenamid); 1007-36-9 (3-Phenyl-1-methylurea); 1024-57-3 (Heptachlor epoxide); 1114-71-2 (Pebulate); 1129-50-6 (Butyranilide); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1468-95-7 (9-Anthracenemethanol); 1538-74-5 (Butyl-N-phenylcarbamate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-17-9 (Atratone); 1610-18-0 (Prometon); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1689-99-2; 1698-60-8 (Pyrazon); 1746-01-6 (2,3,7,8-

Tetrachlorodibenzodioxin); 1746-81-2 (Monolinuron); 1861-32-1 (Chlorthal-dimethyl); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1912-25-0 (Ipazine); 1912-26-1 (Trietazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 1918-13-4 (Chlorthiamide); 1918-16-7 (Propachlor); 1918-18-9 (Methyl-N-(3,4-dichlorophenyl)carbamate); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 1967-25-5 (4-Bromophenylurea); 1967-27-7 (3-Chlorophenylurea); 1982-47-4 (Chloroxuron); 1982-49-6 (Siduron); 2008-41-5 (Butylate); 2008-58-4 (2,6-Dichlorobenzamide); 2032-65-7 (Methiocarb); 2051-60-7 (2-Chlorobiphenyl); 2077-99-8; 2104-64-5 (EPN); 2122-70-5 (Ethyl 1-naphthylacetate); 2150-88-1 (Methyl-N-(3-chlorophenyl)carbamate); 2150-93-8; 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2234-13-1 (Octachloronaphthalene); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2307-68-8 (Pentanochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2327-02-8 (3,4-Dichlorophenylurea); 2385-85-5 (Mirex); 2425-10-7 (Meobal); 2426-12-2; 2439-01-2 (Oxythioquinox); 2539-17-5 (Tetrachloroguaiacol); 2593-15-9 (Etridiazole); 2603-10-3 (Methyl-N-phenylcarbamate); 2668-24-8 (4,5,6-Trichloroguaiacol); 2675-77-6; 2921-88-2 (Chlorpyrifos); 2989-98-2 (3-Bromophenylurea); 3060-89-7 (Metobromuron); 3070-15-3 (Fensulfothion sulfide); 3337-71-1 (Asulam); 3383-96-8 (Temephos); 3478-94-2 (Piperalin); 3481-20-7 (2,3,5,6-Tetrachloroaniline); 3567-62-2 (3-(3,4-Dichlorophenyl)-1-methylurea); 3597-91-9 (4-Biphenylmethanol); 3766-81-2 (BPMC); 4147-51-7 (Dipropetryn); 4684-94-0 (6-Chloropicolinic acid); 4726-14-1 (Nitralin); 4780-79-4 (1-Naphthalenemethanol); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5345-54-0 (3-Chloro-4-methoxyaniline); 5532-90-1 (Propyl-N-phenylcarbamate); 5598-13-0 (Chlorpyrifos methyl); 5902-51-2 (Terbacil); 5915-41-3 (Terbutylazine); 6422-86-2 (Bis(2-ethylhexyl)terephthalate); 6923-22-4 (Monocrotophos); 6933-10-4 (3-Methyl-4-bromoaniline); 7012-37-5 (2,4,4'-Trichlorobiphenyl); 7073-42-9; 7159-34-4 (Pyroxychlor); 7160-01-2 (3-(4-Methylphenyl)-1,1-dimethylurea); 7160-02-3 (3-(4-Methoxyphenyl)-1,1-dimethylurea); 7286-84-2 (Chloramben methyl); 7287-19-6 (Prometryn); 7471-09-2; 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10548-10-4 (Terbufos sulfoxide); 10605-21-7 (Carbendazim); 12407-86-2 (Trimethacarb); 12427-38-2 (Maneb); 12771-68-5 (Ancymidol); 13029-08-8 (2,2'-Dichlorobiphenyl); 13071-79-9 (Terbufos); 13114-87-9 (3-Trifluoromethylphenylurea); 13140-86-8; 13140-89-1 (3-Phenyl-1-cyclopentylurea); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13286-32-3 (Kitazin); 13360-45-7 (Chlorbromuron); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14255-72-2 (Fensulfothion sulfone); 14465-32-8; 14465-44-2; 14465-52-2; 15299-99-7 (Napropamide); 15545-48-9 (Chlortoluron); 15968-05-5 (2,2',6,6'-Tetrachlorobiphenyl); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18691-97-9 (Methabenzthiazuron); 19044-88-3 (Oryzalin); 19095-79-5; 19666-30-9 (Oxadiazon); 19937-59-8 (Metoxuron); 20354-26-1 (Methazole); 20782-57-4; 20940-42-5; 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 22175-22-0; 22224-92-6 (Fenamiphos); 22248-79-9 (Stirofos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 23564-05-8 (Thiophanate methyl); 23950-58-5 (Pronamide); 24151-93-7 (Piperophos); 25057-89-0 (Bentazon); 25277-05-8; 25311-71-1 (Isofenphos); 26087-47-8; 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26389-78-6 (Chlornidine); 26399-36-0 (Profluralin); 26644-46-2 (Triforine); 27314-13-2 (Norflurazon); 27799-90-2; 28170-54-9; 28249-77-6 (Thiobencarb); 29091-05-2 (Dinitramine); 29232-93-7 (Pirimiphos-methyl); 29682-39-1 (3-Chloro-4-bromonitrobenzene); 30560-19-1 (Acephate); 31972-43-7 (Fenamiphos sulfoxide); 31972-44-8 (Fenamiphos sulfone); 32357-46-3; 32598-11-1 (2,5,3',4'-Tetrachlorobiphenyl); 33089-61-1 (Amitraz); 33222-69-4 (3-Methylphenylcarbamate); 33245-39-5 (Fluchloralin); 33433-95-3 (2,3,5-T); 33629-47-9 (Butralin); 33820-53-0 (Isopropalin); 34014-18-1 (Tebuthiuron); 34256-82-1 (Acetochlor); 34883-43-7 (2,4'-Dichlorobiphenyl); 35065-27-1 (2,2',4,4',5,5'-Hexachlorobiphenyl); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35693-99-3 (2,2',5,5'-Tetrachlorobiphenyl); 36355-01-8 (Hexabromobiphenyl); 36627-56-2; 36734-19-7 (Iprodione); 37547-27-6; 37680-65-2 (2,2',5-Trichlorobiphenyl); 37680-66-3 (2,2',4-Trichlorobiphenyl); 37680-73-2 (2,2',4,5,5'-Pentachlorobiphenyl); 38380-02-8 (2,2',3,4,5'-Pentachlorobiphenyl); 38380-07-3 (2,2',3,3',4,4'-Hexachlorobiphenyl); 39638-32-9 (Bis-(2-chloroisopropyl) ether); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenophos); 41394-05-2 (Metamitron); 41814-78-2 (Tricyclazole); 42509-80-8 (Isazophos); 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51338-27-3 (Diclofop-methyl); 51630-58-1

(Fenvalerate); 51707-55-2 (Thidiazuron); 52030-36-1; 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52712-05-7 (2,2',3,4,5,5',6-Heptachlorobiphenyl); 53404-31-2 (2,4-DP butoxyethanol ester); 55283-68-6 (Ethalfluralin); 55290-64-7 (Dimethipin); 55335-06-3; 55861-78-4 (Isouron); 56070-16-7 (Terbufos sulfone); 57837-19-1 (Metalaxyl); 58138-08-2 (Tridiphane); 59669-26-0 (Thiodicarb); 59756-60-4 (Fluridone); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 62924-70-3 (Flumetralin); 63075-06-9 (Pentyl-N-phenylcarbamate); 63082-07-5 (4-Methoxyphenylcarbamate); 64532-97-4; 64902-72-3 (Chlorsulfuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66441-23-4 (Fenoxaprop-ethyl); 66841-25-6 (Tralomethrin); 67130-04-5 (4-Chlorobenzotriazole); 67485-29-4 (Hydramethylnon); 67747-09-5 (Prochloraz); 68359-37-5 (Cyfluthrin); 69409-94-5 (Fluvalinate); 69806-50-4 (Fluazifop butyl); 70124-77-5 (Flucythrinate); 71059-53-5; 72178-02-0 (Fomesafen); 72490-01-8 (Fenoxycarb); 74051-80-2 (Sethoxydim); 74222-97-2 (Sulfometuron methyl); 74223-64-6 (Metsulfuron methyl); 76578-14-8 (Quizalofop ethyl); 76674-21-0 (PP 450); 78508-43-7; 78508-44-8 (4-Phenoxyphenylurea); 78508-45-9; 78508-46-0; 78587-05-0 (Hexythiazox); 81334-34-1 (Imazapyr); 82558-50-7 (Isoxaben); 82657-04-3 (Bifenthrin); 87818-31-3 (Cinmethylin); 90982-32-4 (Chlorimuron-ethyl); 91465-08-6; 105300-08-1; 113511-39-0; 142559-77-1; 243464-29-1; 243464-30-4; 560119-37-1; 560119-38-2; 560119-39-3 Role: PEP (Physical, engineering or chemical process), PYP (Physical process), PROC (Process) (prediction of soil sorption coeff. of org. chems. from mol. structure)
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Citations: 19) Kubinyi, H; Quantum Struct-Act Relat 1994, 13, 285 A correlation study based on simple structural descriptors for predicting the soil sorption coeff., log Koc, of a diverse set of 568 org. compds. is presented. Using a training set of 403 compds., in which the log Koc values were in the range 0-6.5, multiple linear regression (MLR) was utilized to build the models. The models were validated using a test set of 165 chems. not included in the training set. The statistics for a linear regression model with calcd. aq. soly., log S, were r2 = 0.80 and s = 0.51 in the training set, and r2 = 0.76 and s = 0.61 in the test set. The model parameters used allow rapid and accurate calcn. of log Koc values for a diverse set of org. chems., and propose the importance of mol. soly., lipophilicity, size, flexibility, and ionization for a chems.' sorption to org. soil material. [on SciFinder (R)] 0095-2338 model/ soil/ sorption/ coeff/ org/ compd/ mol/ structure

577. Igamberdiev, Abir U. (1999). Foundations of metabolic organization: coherence as a basis of computational properties in metabolic networks. *Biosystems* 50: 1-16.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Biological organization is based on the coherent energy transfer allowing for macromolecules to operate with high efficiency and realize computation. Computation is executed with virtually

100% efficiency via the coherent operation of molecular machines in which low-energy recognitions trigger energy-driven non-equilibrium dynamic processes. The recognition process is of quantum mechanical nature being a non-demolition measurement. It underlies the enzymatic conversion of a substrate into the product (an elementary metabolic phenomenon); the switching via separation of the direct and reverse routes in futile cycles provides the generation and complication of metabolic networks (coherence within cycles is maintained by the supramolecular organization of enzymes); the genetic level corresponding to the appearance of digital information is based on reflective arrows (catalysts realize their own self-reproduction) and operation of hypercycles. Every metabolic cycle via reciprocal regulation of both its halves can generate rhythms and spatial structures (resulting from the temporally organized depositions from the cycles). Via coherent events which percolate from the elementary submolecular level to organismic entities, self-assembly based on the molecular complementarity is realized and the dynamic informational field operating within the metabolic network is generated. Coherence/ Computation/ Futile cycle/ Information transfer/ Metabolic network/ Morphogenesis/ Non-locality/ Switching http://www.sciencedirect.com/science/article/B6T2K-3VXRV89-1/2/e9b5cf3477486863195e7095cf599ad5

578. Igathinathane, C. and Chattopadhyay, P. K. (1999). Moisture diffusion modelling of drying in parboiled paddy components. Part II: Bran and Husk. *Journal of Food Engineering* 41: 89-101.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Multi-component prolate spheroid geometry was used in developing a non-dimensional isothermal liquid diffusion drying model for studying the moisture movement in the composite solids using a prolate spheroidal co-ordinate system. The developed models were solved using a finite difference method and were applied to simulate the drying process of multi-component parboiled brown rice and parboiled paddy. The observed drying characteristics of the input materials prepared by suitable hydrothermal treatment were obtained using a fluidised bed dryer at drying air temperatures ranging from 50[ring operator]C to 100[ring operator]C. In the multi-component parboiled brown rice drying model, the diffusion coefficients of bran were determined from the diffusion coefficients of the starchy endosperm, and for the parboiled paddy model the diffusion coefficients of husk were determined from the values of starchy endosperm and bran successively. By minimising the sum of squared differences (SSD) between experimentally observed and model predicted characteristics the liquid diffusion coefficients of bran and husk were determined at the various air temperatures studied. The developed models showed good agreement with the observed drying characteristics of the input materials. The temperature dependence of the diffusion coefficients of the parboiled paddy components was expressed by Arrhenius type of equationsThe diffusion coefficients of the parboiled paddy components were comparable to the recent findings on raw paddy and the differences encountered may be attributed to the properties of the component material. http://www.sciencedirect.com/science/article/B6T8J-3X5HD4R-2M/2/4c2edb12eada467a8042501f84fef69e

579. Igathinathane, C. and Chattopadhyay, P. K. (1998). Numerical Techniques for Estimating the Surface Areas of Ellipsoids Representing Food Materials. *Journal of Agricultural Engineering Research* 70: 313-322.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Food materials (seeds, grains, fruits and vegetables) resembling the shape of a general ellipsoid were modelled for accurate determination of surface area from measurements of their three principal dimensions. The process of surface area estimation involved partitioning the ellipsoid into an appropriate number of elliptical discs, determination of the surface areas of the edges of the discs and summing them to obtain the total surface area. Two types of perimeters were used to determine the edge surface areas: (1) the average perimeter; and (2) the root mean square perimeter. For edge length, three measures were considered: (1) parallel to the axis; (2) inclined to the axis; and (3) length of the elliptical arc. Six different surface area models were developed by combining the two perimeters with the three edge lengths and these were validated against exact analytical solutions for a sphere, prolate spheroid and oblate spheroid. The models with parallel edge length always produced the greatest underestimate of surface area and they cannot, in fact, give accurate results, even if a large number of discs is used. The models with inclined and elliptic arc edge length performed well in the entire range of width/length of prolate spheroids and thickness/length of oblate spheroids. For practical computations involving the general ellipsoid, a minimum of 100 discs was found to be sufficient, as it produced a maximum deviation of less than +/-0[middle dot]1% from 1000 discs for all the models and geometries considered. The performances of two approximate formulae for the surface area of the general ellipsoid were also studied for comparison but they were suitable only in the near-spherical range. Predictions were made and compared with the reported surface areas for a few paddy varieties, which were experimentally determined by previous researchers, and were found to deviate within +7[middle dot]0 to +30[middle dot]0%. http://www.sciencedirect.com/science/article/B6WH1-45J55HW-1M/2/dad1fb726569d6b002e519f8165afe92

580. Igathinathane, C. and Chattopadhyay, P. K. (1998). On the development of a ready reckoner table for evaluating surface area of general ellipsoids based on numerical techniques. *Journal of Food Engineering* 36: 233-247.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Surface areas of food materials resembling general ellipsoids can be obtained from the principal dimensions by numerical techniques. Nodes were identified on the surface along the principal planes in the developed model for generating a series of flat triangular element grids and their assembly gave the surface area of the ellipsoidal material. The model was validated against simpler geometries, such as sphere, prolate spheroids and oblate spheroids, and was found to be accurate. With the combination of non-dimensional input in the model and scaling factor a two-dimensional ready reckoner table of reduced surface areas was developed, which covered the entire range of sizes and shapes of general ellipsoid. The method of obtaining the intermediate values in the table by univariate and bivariate linear interpolation was also outlined and the interpolation error was in the range of 0.0-0.57%. The nomogram representation of the table can be utilised for rough estimates. The actual surface area of the object is obtained from the reduced surface area by multiplying it by the scaling factor.
http://www.sciencedirect.com/science/article/B6T8J-3THHCRM-7/2/4aed770fb9891e8a1087efdad30145e5

581. Igathinathane, C. and K. Chattopadhyay, P. (1999). Moisture diffusion modelling of drying in parboiled paddy components. Part I: starchy endosperm. *Journal of Food Engineering* 41: 79-88.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

A non-dimensionalised isothermal liquid diffusion drying model in prolate spheroid geometry using prolate spheroidal co-ordinate system was developed, and applied to drying of parboiled polished rice. Using appropriate hydrothermal treatment the parboiled polished rice was prepared, and its drying characteristics were determined using fluidised bed drying at air temperatures varying from 50 to 100[ring operator]C. A mathematical model simulating the drying was solved using the finite difference methodology. The liquid diffusion coefficients of starchy endosperm of parboiled polished rice while drying with various air temperatures were determined by minimising the sum of squared differences between experimentally observed and model predicted characteristics. The developed models showed good agreement with the experimentally observed data. Temperature dependence of liquid diffusion coefficients was expressed by an Arrhenius type of equation, which had a high correlation coefficient:
http://www.sciencedirect.com/science/article/B6T8J-3X5HD4R-2K/2/344c80439c5b723cb37761acf1b1ad01

582. Ikramov, L. T. and Mirkhaitov, T. ([Effect of Ethanol Preservation on the Retention of Phosalone and Phthalophos in a Corpse]. *Sud med ekspert. 1973 jul-sep; 16(3):35-7. [Sudebno-meditsinskaia ekspertiza]: Sud Med Ekspert.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, HUMAN HEALTH.

MESH HEADINGS: Benzoxazoles/analysis
MESH HEADINGS: *Cadaver
MESH HEADINGS: Colorimetry
MESH HEADINGS: *Ethanol
MESH HEADINGS: Humans
MESH HEADINGS: Indoles/analysis
MESH HEADINGS: Insecticides/*analysis
MESH HEADINGS: Liver/analysis
MESH HEADINGS: *Organothiophosphorus Compounds
MESH HEADINGS: Pesticide Residues/*analysis
MESH HEADINGS: Photometry
MESH HEADINGS: Time Factors
MESH HEADINGS: Tissue Preservation
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Vliianie konservirovaniia étanolov na sokhraniaemost' fozalona i ftalofosa v trupe.

583. Ikramov, L. T. and Mirkhaitov, T. (The Effect of Ethyl Alcohol Preservative on the Stability of Phosalone and Phthalophos in Cadavers. *Sud.-Med. Ekspertiza 16(3): 35-37; 1973.*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: PESTAB. The organic insecticides phosalone and phthalophos were added to human cadaveric liver preserved with ethyl alcohol and left at room temperature. After 30 days, 31% of the initial phosalone quantity was detectable, and 10.5% was detected after five months. Corresponding values for phthalophos were 23 and 7%, respectively. The addition of ethyl alcohol does improve the conservability of these substances in cadaveric material.
LANGUAGE: rus

584. Ikramov, L. T. and Mirkhaitov, T. (Effect of Preservation With Ethanol on the Stability of Phosalone and Phthalophos in Corpses. *Sud.-Med. Ekspertiza 16(3): 35-37; 1973*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB The preserving effect of ethanol on the stability of phosalone and phthalophos (phosmet) in cadaver liver was studied by photoelectrocolorimetric residue analysis. The preservation of the cadaver tissue with ethanol resulted in increased persistence of both the phosalone and phthalophos residues. After 30 days of preservation in ethanol at room temperature, 31% of the initial phosalone content was detected and fell to 10. 5% in 150 days. The corresponding percentages of phthalophos, recovered after 30 and 150 days, were 23% and 7%, respectively.
LANGUAGE: rus

585. Ikramov, L. T., Tashpulatov, A. I. U., Mirkha&#301, and Tov, T. ([Spectrophotometric Analysis of Sayphos, Phosalone and Phthalophos in Study of the Liver]. *Sud med ekspert. 1980; 23(3):33-5. [Sudebno-meditsinskaia ekspertiza]: Sud Med Ekspert.*
Chem Codes : Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

MESH HEADINGS: Forensic Medicine
MESH HEADINGS: Humans
MESH HEADINGS: Insecticides/*analysis
MESH HEADINGS: Liver/*analysis
MESH HEADINGS: Organothiophosphorus Compounds/*analysis
MESH HEADINGS: Phosmet/*analysis
MESH HEADINGS: Spectrophotometry, Ultraviolet/*methods
MESH HEADINGS: Triazines/*analysis
LANGUAGE: rus

TRANSLIT/VERNAC TITLE: Spektrofotometricheskiĭ analiz saĭfosa, fozalona i ftalofosa pri issledovanii pecheni.

586. Illarionov, A. I. (1995). Ecological Mechanisms of the Connection of Honey Bee With Insecticide Treated Plants. *Agrokhimiya* 0: 89-96.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE INSECTICIDES BEE POPULATION DYNAMICS CLIMATIC FACTORS TOXICITY SAFETY
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: HYMENOPTERA
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Angiospermae
KEYWORDS: Hymenoptera
LANGUAGE: rus

587. Imai, A., Fukushima, T., Matsushige, K., and Kim, Y. H. (Fractionation and Characterization of Dissolved Organic Matter in a Shallow Eutrophic Lake, Its Inflowing Rivers, and Other Organic Matter Sources. *Water res. 2001, dec; 35(17):4019-28. [Water research]: Water Res*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

ABSTRACT: Dissolved organic matter (DOM) in water from eutrophic Lake Kasumigaura, its inflowing rivers, and several other DOM sources in the lake catchment area was fractionated using resin adsorbents into five classes: aquatic humic substances (AHS), hydrophobic neutrals (HoN), hydrophilic acids (HiA), bases (BaS), and hydrophilic neutrals (HiN). The DOM-fraction distribution pattern and the ultraviolet absorbance to dissolved organic carbon ratio (UV/DOC ratio) were found remarkably effective for evaluating the characteristics of DOM in water. DOM-fraction distribution patterns were significantly different depending on the origin of the sample. AHS and HiA were found to be the dominant fractions in DOM in all samples studied. HiA

prevailed over AHS in the lake water, whereas AHS were slightly more abundant than HiA in the river waters. AHS were in the great majority in forest streams and plowed-field percolates. HiA abounded in paddy-field outflow, domestic sewage, and sewage-treatment-plant effluent. Only domestic sewage contained a significant amount of HoN. The UV/DOC ratio also varied depending on the origin of the sample: the ratios in total DOM, AHS, and HiA were greater in river waters than in the lake water. The greatest ratio of AHS was found in paddy-field outflow and the lowest in domestic sewage. The UV/DOC ratios in the sewage-treatment-plant effluent were very similar to those in the lake water.
MESH HEADINGS: Absorption
MESH HEADINGS: Chemistry, Analytical/methods
MESH HEADINGS: Environmental Monitoring/*methods
MESH HEADINGS: *Eutrophication
MESH HEADINGS: Organic Chemicals/*analysis
MESH HEADINGS: Solubility
MESH HEADINGS: Water/chemistry
LANGUAGE: eng

588. Inoue, Hideo, Nakagawa, Toshio, and Morihara, Kazuyuki (1963). Pseudomonas aeruginosa proteinase : II. Molecular weight and molecular dimension. *Biochimica et Biophysica Acta (BBA) - Specialized Section on Enzymological Subjects* 73: 125-131.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

1. 1. In order to determine the molecular weight of the crystalline proteinase of Pseudomonas aeruginosa (IFO 3080) sedimentation-velocity experiments have been carried out.2. 2. The boundary-gradient curves obtained have been analysed according to theory. The sedimentation coefficient s0 and the diffusion coefficient D0 at infinite dilution are thus calculated to be 3.99[middle dot]10-13 sec, and 7.4[middle dot]10-7 cm2/sec. respectively.3. 3. Insertion of the above values into the equation gives a mol. wt. of 48 400.4. 4. On the assumption that the proteinase molecule is a rigid ellipsoid of revolution, hydrated to 30%, the molecular dimensions are calculated as follows: a axis 35 A, b axis 68 A for an oblate ellipsoid; a axis 86 A, b axis 43 A for a prolate ellipsoid. http://www.sciencedirect.com/science/article/B73GF-48SJP7F-H/2/179022020e4d424f7df3a01b032e708e

589. Ionova, I., Zhecheva, G., and Dimitrov, K. ([Residual Amount of Sevin, Neguvon and Imidan in the Meat of Swine Treated Against Ectoparasites]. *Vet med nauki. 1974; 11(5):28-34. [Veterinarno-meditsinski nauki]: Vet Med Nauki*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Carbaryl/*analysis
MESH HEADINGS: Ectoparasitic Infestations/prevention &amp
MESH HEADINGS: control/*veterinary
MESH HEADINGS: *Food Contamination
MESH HEADINGS: Insect Repellents/*analysis
MESH HEADINGS: *Meat/analysis
MESH HEADINGS: *Swine
MESH HEADINGS: Swine Diseases/prevention &amp
MESH HEADINGS: control
LANGUAGE: bul
TRANSLIT/VERNAC TITLE: Ostatuchni kolichestva sevin, neguvon i imidan v meso na tretirani sreshtu ektoparaziti svine

590. Ishige, T. and Uchida, A. (Results of Health Examinations of Pear Farmers in Chiba Prefecture, With Particular Reference to Eeg Findings in (Pesticide) Speed Sprayer Operators. *Nippon noson igakkai zasshi (j. Jpn. Assoc. Rural med.) 25(3): 198-199; 1976.*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: PESTAB. Health examinations were performed on pear farmers in Chiba prefecture in 1975. Complaints of fatigue, stiff shoulders, and lumbago were more frequent in women than in men. Hypertension was recorded in 15.4% of the men and 22.2% of the women. Abnormal electrocardiograms were found in 35.9% of the men and 16.7% of the women. Anemia was noted in 5.1% of the men and 16.7% of the women. Abnormal liver function was detected infrequently, as were glycosuria and proteinuria. EEG studies were performed on seven speed sprayer operators employed in this capacity for 3-4 years, and working in this capacity for 15-25 days in 1975. The average number of hours worked per day was 9, and the principal pesticides applied were fenitrothion, estox, diazinon, imidan, dichlorvos, benomyl, thiophanate-methyl, zineb, dicofol, and machine oil. Four borderline abnormal cases were noted, and two abnormal EEGs, including one severe case. The results of a second EEG study on the same operators in 1976 and on eight new operators showed a slight aggravation of findings in experienced operators and slight abnormalities in the new operators (2 borderline cases and one abnormal).
LANGUAGE: jpn

591. Ito, N., Hagiwara, A., Tamano, S., Futacuchi, M., Imaida, K., and Shirai, T. (1996). Effects of Pesticide Mixtures at the Acceptable Daily Intake Levels on Rat Carcinogenesis. *Food Chem.Toxicol.* 34: 1091-1096.
Chem Codes: Chemical of Concern: CTZ,PSM,EFV,FRM,GYP Rejection Code: MIXTURE.

592. Ito, N., Hagiwara, A., Tamano, S., Hasegawa, R., Imaida, K., Hirose, M., and Shirai, T. (1995). Lack of Carcinogenicity of Pesticide Mixtures Administered in the Diet at Acceptable Daily Intake (ADI) Dose Levels in Rats. *Toxicol.Lett.* 82/83: 513-520.
Chem Codes: Chemical of Concern: MYC,MLX,FRM,VCZ,BS,FNV,CYF,CYH,OML,TDF,MZB,Maneb,CAP,DBN,TFN,GYP,24D,CTZ,PSM,PMR,CYP,DCF,TCM,TCF,ACP,CPY,DDDVP,DMT,ES,FNT,MLN,MDT,PIRM
Rejection Code: MIXTURE.

593. Ivanova, G. B. (1980). O Rezistentnosti Nasekomykh K Diftorbenzuronu. [Resistance of Insects to Diflubenzuron.]. *Khim. Sel'sk. Khoz.* 18: 18-19.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. Toxicity of the juvenile hormone analog diflubenzuron (1-(2-6-difluorobenzoyl)-3(4-chlorophenyl)-urea) to house fly larvae resistant to various insecticides was studied. Diflubenzuron at 0.00005-.01% concentrations resulted in the death of 31-87% of larvae of the sensitive strain. Strains resistant to phthalophos (phosmet), Koral (coumaphos), chlorophos (trichlorfon), malathion, neopinamine, and Gardonna (tetrachlorvinphos) were also resistant to diflubenzuron at 0.015-1% concentrations.
LANGUAGE: rus

594. Ivie, Glen W. and Casida, John E (1971). Sensitized photodecomposition and photosensitizer activity of pesticide chemicals exposed to sunlight on silica gel chromatoplates. *Journal of Agricultural and Food Chemistry* 19: 405-9.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1971:419168
Chemical Abstracts Number: CAN 75:19168
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (photodecompn. of, photosensitizer effect on)
Index Terms(2): Xanthrone Role: PROC (Process) (photodecompn. of)

CAS Registry Numbers: 66-77-3; 82-05-3; 84-65-1; 85-01-8; 86-73-7; 86-74-8; 90-47-1; 90-94-8; 90-98-2; 93-08-3; 98-86-2; 103-30-0; 119-61-9; 120-12-7; 129-00-0; 132-65-0; 134-81-6; 492-22-8; 525-82-6; 603-34-9; 941-98-0 Role: BIOL (Biological study) (insecticide photodecompn. in presence of); 55-38-9; 56-72-4; 60-51-5; 80-00-2; 85-41-6; 87-86-5; 92-84-2; 94-74-6; 95-06-7; 97-16-5; 101-05-3; 101-27-9; 116-06-3; 116-29-0; 117-80-6; 120-62-7; 122-39-4; 132-27-4; 133-90-4; 148-79-8; 732-11-6; 786-19-6; 953-17-3; 1079-33-0; 1698-60-8; 1918-02-1; 2227-17-0; 2439-01-2; 2686-99-9; 3383-96-8; 5281-13-0; 7696-12-0; 10453-86-8 Role: PROC (Process) (photodecompn. of); 50-29-3; 51-03-6; 60-57-1; 63-25-2; 72-20-8; 83-79-4; 88-85-7; 94-75-7; 114-26-1; 119-38-0; 121-21-1; 121-75-5; 122-14-5; 309-00-2; 315-18-4; 333-41-5; 584-79-2; 944-22-9; 973-21-7; 2032-65-7; 2686-99-9; 23103-98-2 Role: BIOL (Biological study) (photodecompn. of, photosensitizer effect on) Photodecompn. of several pesticide chems. exposed to sunlight on silica gel chromatoplates is accelerated by photosensitizing agents, including some other pesticide chems. In a simple procedure involving exposure to sunlight for up to 1 hr, 28 candidate sensitizers of known triplet-energy values were tested individually for activity in sensitizing the photodegradation of each of 23 radiolabeled pesticide chems.; 175 unlabeled pesticides were screened for photosensitizing activity against each of six 14C-labeled insecticide chems. The conversion of aldrin, dieldrin, and endrin to photoisomeric derivs. is accelerated by many compds. of high triplet-energy state. Some aromatic amines sensitize the photodecompn. of DDT and several chlorinated cyclodienes, possibly by formation of charge transfer complexes. Anthraquinone shows the broadest spectrum of activity of the sensitizers tested in combination with organophosphorus compds., methylcarbamates, pyrethroids, rotenone, dinitrophenol derivs., piperonyl butoxide, and 2,4-D. There is a possibility of a photosensitizing pesticide chem. markedly altering the persistence of another pesticide chem., but these interactions of a photosensitizing nature occur with only a few combinations of pesticides studied. [on SciFinder (R)] 0021-8561 photodecompn/ pesticides;/ insecticides/ photodecompn;/ sensitizers/ pesticide/ decompn;/ anthraquinone/ pesticides

595. Jablonick&Aacute, A, Kobzov&Aacute, and D (1988). [Morphologic Changes in Sperm in Experimental Mice After the Administration of Phosmet and Mancozeb]. *Bratisl Lek Listy* 89: 611-614.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Insecticides/*toxicity
MESH HEADINGS: Male
MESH HEADINGS: Maneb/*toxicity
MESH HEADINGS: Mice
MESH HEADINGS: Mice, Inbred ICR
MESH HEADINGS: Organ Size/drug effects
MESH HEADINGS: Phosmet/*toxicity
MESH HEADINGS: Sperm Count/drug effects
MESH HEADINGS: Spermatozoa/*drug effects/pathology
MESH HEADINGS: Testis/drug effects
MESH HEADINGS: Thiocarbamates/*toxicity
MESH HEADINGS: Zineb/*toxicity
LANGUAGE: slo
TRANSLIT/VERNAC TITLE: Morfologické zmeny spermií u experimentálnych mysí po aplikácii fosmetu a mankozebu.

596. Jager, Tjalling and Kooijman, Sebastiaan A. L. M (2005). Modeling Receptor Kinetics in the Analysis of Survival Data for Organophosphorus Pesticides. *Environmental Science and Technology* 39: 8307-8314.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:1037135

Chemical Abstracts Number: CAN 143:473728
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Ecotoxicity; Folsomia candida; Pimephales promelas; Poecilia reticulata; Simulation and Modeling; Toxicokinetics (modeling receptor kinetics in anal. of survival data for organophosphorus pesticides); Receptors Role: BSU (Biological study, unclassified), BIOL (Biological study) (modeling receptor kinetics in anal. of survival data for organophosphorus pesticides); Pesticides (organophosphorus; modeling receptor kinetics in anal. of survival data for organophosphorus pesticides)
CAS Registry Numbers: 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2597-03-7 (Phenthoate) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (modeling receptor kinetics in anal. of survival data for organophosphorus pesticides); 9000-81-1 (Acetylcholinesterase) Role: BSU (Biological study, unclassified), BIOL (Biological study) (modeling receptor kinetics in anal. of survival data for organophosphorus pesticides)
Citations: 1) Kooijman, S; Water Res 1981, 15, 107
Citations: 2) McCarty, L; Environ Sci Technol 1993, 27, 1719
Citations: 3) Sijm, D; Environ Sci Technol 1995, 29, 2769
Citations: 4) Kooijman, S; Water Res 1996, 30, 1711
Citations: 5) Mackay, D; Environ Sci Technol 1982, 16, 274
Citations: 6) Sprague, J; Water Res 1969, 3, 793
Citations: 7) McCarty, L; Environ Toxicol Chem 1986, 5, 1071
Citations: 8) Kooijman, S; Oikos 1996, 75, 310
Citations: 9) Bedaux, J; Environ Ecol Stat 1994, 1, 303
Citations: 10) U S Environmental Protection Agency; http://www.epa.gov/oppbead1/pestsales/
Citations: 11) Fukuto, T; Environ Health Perspect 1990, 87, 245
Citations: 12) Legierse, K; Environ Sci Technol 1999, 33, 917
Citations: 13) Lee, J; Environ Sci Technol 2002, 36, 3131
Citations: 14) Geiger, D; Acute toxicities of organic chemicals to fathead minnow (Pimephales promelas) 1988, IV/V
Citations: 15) Crommentuijn, T; Ecological risk assessment of contaminants in soil 1997, 275
Citations: 16) Kooijman, S; Dynamic energy and mass budgets in biological systems 2000
Citations: 17) Newman, M; Environ Toxicol Chem 2000, 19, 520
Citations: 18) Heugens, E; Environ Sci Technol 2003, 37, 2145
Citations: 19) Meeker, W; Am Stat 1995, 49, 48
Citations: 20) de Bruijn, J; Sci Total Environ 1991, 109/110, 441
Citations: 21) de Bruijn, J; Environ Toxicol Chem 1993, 12, 1041
Citations: 22) de Bruijn, J; Environ Toxicol Chem 1991, 10, 791
Citations: 23) de Bruijn, J; Aquat Toxicol 1991, 20, 111
Citations: 24) Moretto, A; Toxicol Lett 1998, 102, 509
Citations: 25) Wallace, K; Toxicol Appl Pharmacol 1988, 92, 307
Citations: 26) Worek, F; Mol Toxicol 1999, 73, 7
Citations: 27) Fulton, M; Environ Toxicol Chem 2001, 20, 37
Citations: 28) van der Wel, H; Ecotoxicol Environ Saf 1989, 17, 205
Citations: 29) Printes, L; Environ Toxicol Chem 2004, 23, 1241
Citations: 30) Barata, C; Aquat Toxicol 2004, 66, 125
Citations: 31) Rickwood, C; Aquat Toxicol 2004, 67, 45
Citations: 32) Ferrari, A; Ecotoxicol Environ Saf 2004, 57, 420
Citations: 33) Phillips, T; Environ Toxicol Chem 2002, 21, 1469 Acute ecotoxicol. tests usually focus on survival at a standardized exposure time. However, LC50's decrease in time in a manner that depends both on the chem. and on the organism. DEBtox is an existing approach to analyze toxicity data in time, based on hazard modeling (the internal concn. increases the probability to die). However, certain chems. elicit their response through (irreversible) interaction with a specific receptor, such as inhibition of acetylcholinesterase (AChE). Effects therefore do not

solely depend on the actual internal concn., but also on its (recent) past. In this paper, the DEBtox method is extended with a simple mechanistic model to deal with receptor interactions. We analyzed data from the literature for organophosphorus pesticides in guppies, fathead minnows, and springtails. Overall, the obsd. survival patterns do not clearly differ from those of chems. with a less-specific mode of action. However, using the receptor model, resulting parameter ests. are easier to interpret in terms of underlying mechanisms and reveal similarities between the various pesticides. We obsd. that the no-effect concn. estd. from the receptor model is basically identical to the value from std. DEBtox, illustrating the robustness of this summary statistic. [on SciFinder (R)] 0013-936X model/ receptor/ toxicokinetics/ organophosphorus/ pesticide/ meta/ analysis

597. Jancsok, Pal T., Clijmans, Luc, Nicolai, Bart M., and De Baerdemaeker, Josse (2001). Investigation of the effect of shape on the acoustic response of `conference' pears by finite element modelling. *Postharvest Biology and Technology* 23: 1-12.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

The impulse response method is often used to measure firmness of spherical fruits. In this method the fruit is excited using an impact hammer and the response signal is captured using a microphone. This vibration response signal is subsequently analysed and related to the firmness of the fruit. In our work the effect of the shape of pears on their resonant frequencies is investigated using finite element (FE) modal analysis. Fifty differently shaped 3D FE meshes of `Conference' pears were generated using a geometrical modelling system. The FE model was validated, and found to be sufficiently accurate. The length/maximal diameter (L/D) ratio and the Fourier descriptors were used as shape descriptors. A strong linear relationship (r2>0.84) was found between the third normalised Fourier descriptor (F3) and the resonant frequencies. A weak linear relation was detected using the L/D and the other normalised Fourier descriptors. A simulation of firmness measurements based on the calculated resonant frequency values was carried out to estimate the Young's (E) modulus of the pear as a measure of its firmness. The estimated error with these simulations was found to be 31.44, 8.02 and 3.82% if the bending, the compression and the oblate-prolate modes were measured and the L/D was used as a shape descriptor. If F3 was used, the following error values were found: 6.0% for the bending, 3.39% for compression and 3.38% for the oblate-prolate modes. The results of this study may help in the development of a non-destructive firmness sensor for non-spherical fruits. Fruit quality measurement/ Pear/ Firmness/ Finite element/ Experimental modal analysis
http://www.sciencedirect.com/science/article/B6TBJ-43GH89V-1/2/046d1772df544791fa3abcb2ed7de004

598. Jankovic, I. and Barnes, R. (1999). Three-dimensional flow through large numbers of spheroidal inhomogeneities. *Journal of Hydrology* 226: 224-233.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

An implicit analytic solution is presented for three-dimensional (3D) groundwater flow through a large number of non-intersecting spheroidal inhomogeneities in the hydraulic conductivity. The locations, dimensions, and conductivity of the inhomogeneities may be arbitrarily selected. The specific discharge potential due to each inhomogeneity is expanded in a series that satisfies the Laplace equation exactly. The unknown coefficients in this expansion are related to the coefficients in the expansion of the combined specific discharge potential from all other elements. Using a least-squares formulation for the boundary conditions, a superblock approach, and an iterative algorithm, solutions can be obtained for a very large number of inhomogeneities (e.g. 10,000) on a personal computer to any desired precision, up to the machine's limit. Such speed and precision allows the development of a numerical laboratory for investigating 3D flow and convective transport. Groundwater/ Analytic element method/ Overspecification/ Prolate/ Oblate/ Spheroid http://www.sciencedirect.com/science/article/B6V6C-3YHFYKY-D/2/75812e2565a64e1a260c783f64cbf8e1

599. Jarvis, A. W., Lubbers, M. W., Waterfield, N. R., Collins, L. J., and Polzin, K. M. (1995). Sequencing and analysis of the genome of lactococcal phage c2: International Dairy Lactic Acid Bacteria

Conference. *International Dairy Journal* 5: 963-976.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

The genome of lactococcal prolate-headed phage c2 was sequenced and found to be 22163 bp in length. Early and late genes were identified by transcription mapping. Six putative early promoters and a divergently orientated late promoter were identified. The transcription sites of the early promoters were mapped and the sizes of several transcripts were determined by Northern hybridization. The early region (approximately 6 kb) contained 22 open reading frames (ORFs), and the late region (approximately 16 kb) contained 17 ORFs. N-terminal amino acid sequences were determined for three major and eight minor phage structural proteins, and the gene sequences identified in the late region. Immunogold electron microscopy was used to distinguish major head and tail proteins, and the tail adsorption protein. The late region also contained the phage lysin gene which was cloned and expressed in Escherichia coli. A 521 bp sequence located between the early and late regions was shown to act as an origin of replication in Lactococcus lactis when cloned into the vector pVA891, indicating that the cloned sequence contains an ori. The cos region was elucidated, and the termini of the genome were shown to be complementary non-symmetrical 9 base single-stranded 3' extended DNAs. A putative terminase binding site was identified.
http://www.sciencedirect.com/science/article/B6T7C-3YVCYYS-D/2/58e13d815c9f8372d5ac1558f75fa896

600. Jauniaux, E., Gulbis, B., and Burton, G. J. (The Human First Trimester Gestational Sac Limits Rather Than Facilitates Oxygen Transfer to the Foetus--a Review. *Placenta. 2003, apr; 24 suppl a:s86-93. [Placenta]: Placenta*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: Oxygen (O2) free radicals are a potential teratologic threat to the foetal tissues and are known to be involved in the pathophysiology of common human pregnancy disorders such as miscarriage and pre-eclampsia. During the first two months of human gestation, the placenta surrounds the whole gestational sac, the villi contain only a few capillaries located mainly within the centre of the mesenchymal core, the trophoblastic layer is twice the thickness it will be in the second trimester, the foetal red cells are nucleated and the exocoelomic cavity (ECC) occupies most of the space inside the gestational sac. The ECC contains no oxygen transport system, but anti-oxidant molecules that may provide additional protection to the embryo from oxidative damage are present. Ultrasound and anatomical studies have also demonstrated that the intervillous circulation starts in the periphery of the placenta at around 9 weeks of gestation, and that it becomes continuous and diffuse in the entire placenta only after 12 weeks. Overall, these anatomical features provide indirect evidence that the architecture of the human first trimester gestational sac limits foetal exposure to O2 to what is strictly necessary for its development. These results are in agreement with the concept that the placenta and foetus develop in a physiologically low O2 environment and that its metabolism must be essentially anaerobic. Because of these anatomical arrangements, different nutritional pathways to those operating during most of pregnancy must serve the first-trimester foetus. Up to 9 weeks of gestation, foetal nutrition appears to depend on uterine glandular secretions that are delivered into the intervillous space, supplemented by maternal plasma proteins and other molecules that may percolate through the trophoblastic shell. These molecules diffuse through, or are transported by, the trophoblast of the villi and the chorionic plate into the ECC. From here they are absorbed by the secondary yolk sac (SYS), in which the extraembryonic circulation is probably first established. At the end of the first trimester, the SYS and two-thirds of the placental mass degenerate, and the ECC is progressively obliterated by the enlarging amniotic cavity. The trophoblastic plugs occluding the utero-placental arteries are gradually dislocated, allowing maternal blood to flow into the intervillous space, and the uterine glands involute. These major anatomical transformations modify considerably the spatial relationships between the maternal tissues and the developing embryo, and, consequently, the materno-embryonic exchange pathways. Overall the comparison of morphological features with physiological findings reveals that the architecture of the human first trimester gestational sac is designed to limit foetal exposure to oxygen to that which is strictly necessary for its development, and that during early pregnancy alternative nutritional pathways are in use.

MESH HEADINGS: Anaerobiosis
MESH HEADINGS: Female
MESH HEADINGS: Free Radicals/metabolism
MESH HEADINGS: Gestational Age
MESH HEADINGS: Humans
MESH HEADINGS: Maternal-Fetal Exchange/*physiology
MESH HEADINGS: Oxygen/*metabolism
MESH HEADINGS: Placenta/anatomy &amp
MESH HEADINGS: histology/*physiology
MESH HEADINGS: Pregnancy
MESH HEADINGS: Yolk Sac/anatomy &amp
MESH HEADINGS: histology/physiology
LANGUAGE: eng

601. Jauregui, J., Valderrama, B., Albores, A., and Vazquez-Duhalt, R. (2003). Microsomal Transformation of Organophosphorus Pesticides by White Rot Fungi. *Biodegradation* 14: 397-406.
<u>Chem Codes</u>: Chemical of Concern: TCF,TBF,AZ,CPY,FNF,MLN,PSM,TBO <u>Rejection Code</u>: FATE.

602. Jeannot, R. , Sabik, H., Amalric, L., Sauvard, E., Proulx, S., and Rondeau, B (2001). Ultra-trace analysis of pesticides by solid-phase extraction of surface water with carbopack B cartridges, combined with large-volume injection in gas chromatography. *Chromatographia* 54: 236-240.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:688693
Chemical Abstracts Number: CAN 135:322446
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Graphitized carbon black Role: ARU (Analytical role, unclassified), ANST (Analytical study) (adsorbent; in ultratrace detn. of pesticides in surface waters by solid-phase extn. combined with gas chromatog.); Extraction (solid-phase; ultratrace detn. of pesticides in surface waters by solid-phase extn. combined with gas chromatog.); Gas chromatography; Pesticides; River waters (ultratrace detn. of pesticides in surface waters by solid-phase extn. combined with gas chromatog.)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (ultratrace detn. of pesticides in surface waters by solid-phase extn. combined with gas chromatog.); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 122-34-9 (Simazine); 139-40-2 (Propazine); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 834-12-8 (Ametryn); 944-22-9 (Fonofos); 1007-28-9 (DIA); 1610-17-9 (Atraton); 1610-18-0 (Prometon); 1912-24-9 (Atrazine); 2104-64-5 (EPN); 2642-71-9 (Azinphos-ethyl); 6190-65-4 (DEA); 7287-19-6 (Prometryn); 15972-60-8 (Alachlor); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 34256-82-1 (Acetochlor); 51218-45-2 (Metolachlor) Role: ANT (Analyte), ANST (Analytical study) (ultratrace detn. of pesticides in surface waters by solid-phase extn. combined with gas chromatog.)
Citations: 1) Lemieux, C; Water Res 1995, 29, 1491
Citations: 2) Pham, T; Can J Fish Aqua Sci 2000, 57, 78
Citations: 3) Agence de l'eau Loire-Bretagne Fascicule; Pollution des eaux par les produits phytosanitaires sur le bassin Loire-Bretagne 1997
Citations: 4) Tronczynski, J; Programme scientifique Seine-Aval: Organic contaminants: sources transport and transformation 1999
Citations: 5) Sabik, H; Analusis 1997, 25, 267

Citations: 6) Di Corcia, A; Anal Chem 1991, 63, 580
Citations: 7) Altenbach, B; Anal Chem 1995, 67, 2325
Citations: 8) Feigel, C; Varian Chromatography Systems 1998 A method was developed for detn. of 24 polar pesticides - 9 organophosphorus pesticides, 13 organonitrogen compds., and 2 triazine degrdn. products - in surface water. It entails extn. of the target pesticides from 1-L water samples by solid-phase extn. (SPE), then gas chromatog. (GC) with large-vol. (40 mL) injection. Filtered surface water, from the St Lawrence River in Canada and the River Loire and its tributaries in France, was extd. on cartridges filled with 500 mg Carbopack B (120-400 mesh). Anal. was performed by gas chromatog. with a thermionic specific detector (GC-TSD) and a mass spectrometric (MS) detector. Overall percentage recoveries were satisfactory (>70%) for all target pesticides, with precision error <10%. Detection limits were between 0.5 and 4 ng L-1. [on SciFinder (R)] 0009-5893 pesticide/ detn/ water/ solid/ phase/ extn/ GC

603. Jeannot, Roger, Sabik, Hassan, Proulx, Suzie, Amalric, Laurence, Sauvard, Emmanuel, and Rondeau, Bernard (2000). A comparison of the large-volume extraction of surface water and the large-volume injection in gas chromatography for ultratrace analysis of pesticides. 271-278.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:528284
Chemical Abstracts Number: CAN 133:212714
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Conference
Coden: 69AFGO
Language: written in English.
Index Terms: Pesticides (comparison of large-vol. extn. of surface water and large-vol. injection in gas chromatog. for ultratrace anal. of pesticides)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (comparison of large-vol. extn. of surface water and large-vol. injection in gas chromatog. for ultratrace anal. of pesticides); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 122-34-9 (Simazine); 139-40-2 (Propazine); 298-00-0 (Parathion methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 834-12-8 (Ametryn); 944-22-9 (Fonofos); 1007-28-9 (Dia); 1912-24-9 (Atrazine); 2104-64-5 (Epn); 2642-71-9 (Azinphos ethyl); 6190-65-4 (Dea); 7287-19-6 (Prometryn); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazin); 51218-45-2 (Metolachlor) Role: ANT (Analyte), ANST (Analytical study) (comparison of large-vol. extn. of surface water and large-vol. injection in gas chromatog. for ultratrace anal. of pesticides)
Citations: Altenbach, B; Anal Chem 1995, 67, 2325
Citations: Di Corcia, A; Anal Chem 1991, 63, 580
Citations: Ding, W; J Chromatogr A 1999, 857, 359
Citations: Lemieux, C; Wat Res 1995, 29, 1491
Citations: Jeannot, R; to be published in J Chromatogr A 2000
Citations: Pham, T; to be published in Can J Fish Aqua Sci 2000
Citations: Sabik, H; Analusis 1997, 25, 267
Citations: Sabik, H; Int J Environ Anal Chem 1998, 72, 113
Citations: Sabik, H; J Chromatogr A 1998, 818, 197
Citations: Steen, R; Anal Chem Acta 1997, 353, 153
Citations: Tolosa, I; J Chromatogr A 1999, 864, 121
Citations: Tronczynski, J; Programme scientifique Seine-Aval: \"Organic contaminants : sources, transport and transformation\" 1999, 12 A method using solid-phase extn. technique with graphitized C black material, followed by GC-NPD and GC-MS anal. using large vol. injection (40 mL) was developed to analyze 20 polar pesticides-organophosphorus, organonitrogens and triazines degrdn. products in surface waters from St Lawrence River in Canada and Loire River and its tributaries in France. One liter of filtered surface water samples was extd. by solid-phase

technique using cartridges filled with 500 mg Carbopack B (120-400 mesh). The pesticides were quantified and identified by GC-NPD and GC-MS equipped with a large vol. injection system using 40 mL. Results for the St. Lawrence River were close to those obtained by extg. 40-L of water with GLSE system and injecting 1 mL in GC-NPD using SPI mode. In these conditions the limits of detection were 0.5-2 ng/L. [on SciFinder (R)] large/ vol/ extn/ water/ pesticide/ detn;/ gas/ chromatog/ ultratrace/ analysis/ pesticide/ large/ vol/ injection

604. Jenik, M., Madaric, A., and Gecova, K. (Determination of Organophosphorus Insecticides in the Atmosphere. *Cesk. Hyg. 20(2): 83-89* 1975..
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. Studies on the determination of organophosphorus insecticides in the atmosphere are reviewed. Spectrophotometric methods were described for various compounds, including parathion, phthalophos (phosmet), phosalone, dichlorvos, chlorophos (trichlorfon), demeton-methyl, oxydemeton-methyl, dimethoate, mecarbam, morphothion, demeton, thiometon, prothoate, vamidothion, thionazin, trichlorfon, demephion, butonate, dicofol, methyl parathion, Di-Syston (disulfoton), octamethyl, and phosphamidon. Also described were gas chromatographic techniques for determining Birlane EC 24 (chlorfenvinphos), diazinon, ethion, fenitrothion, and thiometon levels in the atmosphere. In contrast to the spectrophotometric and gas-chromatographic methods, enzymatic methods are able to provide information on both the concentration and toxicity of the studied compound in an atmosphere sample. Tests on percentage inhibition of (horse serum) cholinesterase activity, based on a modification of Giang and Hall's method, are described for Ekatox 20 (thiometon), E 605 (parathion), and Potasan.
LANGUAGE: slv

605. Jenkins, T. F. and Palazzo, A. J. (Wastewater Treatment by a Prototype Slow Rate Land Treatment System. *Govt reports announcements & index (gra&i), issue 06, 1982*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: Six slow rate land treatment prototypes, three containing a Windsor sandy loam and three containing Charlton silt loam, were studied from June 1974-May 1980. The systems were spray irrigated with either primary or secondary wastewater at application rates ranging from 2.5 cm/wk to 15 cm/wk. Application schedules were also varied. The performance of forage grasses was studied to determine the yield and nutrient uptake under the various application regimes. The results indicate that, on a mass basis, an average of 91% of the nitrogen (N) applied could be attributed to either plant uptake or percolation of soluble N, mainly nitrate. Nitrate concentrations in the percolate were found to correlate with N loading rate. An N loading rate of 800 kg/ha resulted in a mean concentration of about 10 mg of NO3-N in the percolate. Plant uptake of N was linearly related to N loading rate at loading rates less than 800 kg/ha. In this range, plant uptake accounted for about 60% of the N applied. Mean phosphorus
KEYWORDS: Water treatment
KEYWORDS: Waste treatment

606. Jennings, K. R., Starratt, A. N., and Steele, R. W (1983). The effect of insecticides containing the thionophosphoryl group on peptide neurotransmitter action in the hindgut of Periplaneta americana. *Pesticide Biochemistry and Physiology* 19: 122-32.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1983:156372
Chemical Abstracts Number: CAN 98:156372
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 12
Document Type: Journal

Language: written in English.
Index Terms: Molecular structure-biological activity relationship (neurotransmitter-inhibiting, of thionophosphoryl insecticides); Neurotransmission (thionophosphoryl insecticides inhibition of); Periplaneta americana (thionophosphoryl insecticides inhibition of neurotransmitter action in); Insecticides (thionophosphoryl, peptide neurotransmitter inhibition in cockroach hindgut by)
CAS Registry Numbers: 57966-42-4 Role: BIOL (Biological study) (hindgut contraction induced by, thionophosphoryl insecticide inhibition of); 55-38-9; 56-38-2; 78-40-0; 115-90-2; 121-75-5; 122-14-5; 126-68-1; 297-97-2; 298-00-0; 299-84-3; 311-45-5; 563-12-2; 732-11-6; 944-22-9; 1634-78-2; 2104-64-5; 2104-96-3; 2921-88-2; 3070-15-3; 3383-96-8; 3689-24-5; 3761-41-9; 3761-42-0; 5598-13-0; 5598-15-2; 7359-55-9; 14255-72-2; 17356-42-2; 18181-70-9; 22756-17-8 Role: BIOL (Biological study) (peptide neurotransmitter action in cockroach hindgut inhibition by) Application of phosphorothionate and phosphorothiolothionate insecticides at micromolar concns. inhibited the hindgut contraction of P. americana induced by proctolin [2921-88-2] or proctodeal nerve stimulation. At identical concns., oxon analogs of these insecticides had no effect on proctolin or neural responses in the hindgut while a phosphonate insecticide, EPN, had a long-lasting potentiating action on contraction. The present investigation identifies a new site of organophosphorus insecticide action that may be a useful model system for the design and testing of pesticides that interfere with peptidergic transmission. [on SciFinder (R)] 0048-3575 insecticide/ neurotransmission/ inhibition/ site/ cockroach;/ proctolin/ contraction/ insecticide/ inhibition/ site

607. Jenny, Matthew J., Warr, Gregory W., Ringwood, Amy H., Baltzegar, David A., and Chapman, Robert W. (2006). Regulation of metallothionein genes in the American oyster (Crassostrea virginica): Ontogeny and differential expression in response to different stressors. *Gene* 379: 156-165.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Metallothioneins (MTs) are typically low molecular weight (6-7 kDa), metal-binding proteins with characteristic repeating cysteine motifs (Cys-X-Cys or Cys-Xn-Cys) and a prolate ellipsoid shape containing single [alpha]- and [beta]-domains. While functionally diverse, they play important roles in metals homeostasis, detoxification and the stress response. The present study, combined with previous observations (e.g., Jenny et al., Eur. J. Biochem. 2005; 271:1702-1712) defines an unprecedented diversity of MT primary structure and domain organization in the American oyster, Crassostrea virginica. Two novel molluscan MT families are described. One of these (CvMT-III) is characterized by the presence of two [beta]-domains and the absence of [alpha]-domains. This family exhibits constitutive expression during larval development and is the dominant CvMT isoform expressed in larvae. CvMT-III displays low basal levels of expression in adult tissues and only moderate responsiveness to metal challenges in both larvae and adults. A second novel MT isoform (CvMT-IV) was isolated from hemocytes by subtractive hybridization techniques following a 4-hour immune challenge with heat-killed bacteria (Vibrio, Bacillus, Micrococcus spp. mixture). Based on conservation of the cysteine motifs, this isoform appears to be a sub-family related to the molluscan [alpha][beta]-domain MTs. A series of amino acid substitutions has resulted in four additional cysteines which give rise to a Cys-Cys motif and three Cys-Cys-Cys motifs. Northern blot analyses demonstrate that CvMT-IV is down-regulated upon sterile wounding and immune challenge, displays moderate expression in larvae and adults and differential gene induction in response to metals exposure. Cadmium/ Gene expression/ Development/ Metal-responsive element http://www.sciencedirect.com/science/article/B6T39-4K0028F-2/2/aacc82cf397aa9f1d08a5309820e80dc

608. Jensen, A. F., Petersen, A., and Granby, K (2003). Cumulative risk assessment of the intake of organophosphorus and carbamate pesticides in the Danish diet. *Food Additives & Contaminants* 20: 776-785.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 2003:732981

Chemical Abstracts Number: CAN 140:76198
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Brassica oleracea botrytis (broccoli; cumulative risk assessment of intake of organophosphorus and carbamate pesticides in Danish diet); Pesticides (carbamate; cumulative risk assessment of intake of organophosphorus and carbamate pesticides in Danish diet); Development (child; cumulative risk assessment of intake of organophosphorus and carbamate pesticides in Danish diet); Citrus sinensis; Orange (clementine; cumulative risk assessment of intake of organophosphorus and carbamate pesticides in Danish diet); Actinidia chinensis; Allium porrum; Ananas comosus; Anethum graveolens; Apium graveolens; Apium graveolens rapaceum; Avena sativa; Berry; Brassica oleracea capitata; Brassica oleracea gemmifera; Brassica pekinensis; Cereal; Citrus limon; Citrus paradisi; Citrus reticulata; Citrus sinensis; Cucumis melo; Cucumis sativus; Cynara scolymus; Daucus carota; Diet; Food processing; Fortunella; Fragaria; Fruit; Health hazard; Hordeum vulgare; Lactuca sativa; Lycopersicon esculentum; Malus pumila; Mangifera indica; Musa; Orange; Oryza sativa; Passiflora edulis; Persea; Petroselinum crispum; Phaseolus vulgaris; Prunus; Prunus armeniaca; Prunus domestica; Prunus persica; Prunus persica nectarina; Pyrus communis; Raphanus sativus; Solanum melongena esculentum; Spinacia oleracea; Thymus; Toxicity; Triticum aestivum; Vegetable; Vitis vinifera; Zea mays (cumulative risk assessment of intake of organophosphorus and carbamate pesticides in Danish diet); Capsicum annuum annuum (grossum group; cumulative risk assessment of intake of organophosphorus and carbamate pesticides in Danish diet); Pesticides (organophosphorus; cumulative risk assessment of intake of organophosphorus and carbamate pesticides in Danish diet); Fruit (tropical fruit; cumulative risk assessment of intake of organophosphorus and carbamate pesticides in Danish diet)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 2310-17-0 (Phosalone); 2595-54-2 (Mecarbam); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 23103-98-2 (Pirimicarb); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 41198-08-7 (Profenofos); 57018-04-9 Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (cumulative risk assessment of intake of organophosphorus and carbamate pesticides in Danish diet)
Citations: Andersen, J; Pesticide Residues in Fruits, Vegetables and Cereals in Denmark -- 1997. Report Concerning Directives 90/642/EEC, 86/362/EEC and Commission Recommendation 96/738/EC 1998
Citations: Andersen, J; Pesticide Residues in Fruits, Vegetables and Cereals in Denmark -- 1998. Report Concerning Directives 90/642/EEC, 86/362/EEC and Commission Recommendation 96/822/EC 1999
Citations: Andersen, J; Pesticide Residues in Fruits, Vegetables and Cereals in Denmark -- 1999. Report Concerning Directives 90/642/EEC, 86/362/EEC and Commission Recommendation 1999/333/EC 2000
Citations: Andersen, J; Pesticide Residues in Fruits, Vegetables and Cereals in Denmark -- 2000. Report Concerning Directives 90/642/EEC, 86/362/EEC and Commission Recommendation 2000/43/EC 2001
Citations: Boon, P; Cumulative Exposure to Acetylcholinesterase Inhibiting Compounds in the Dutch Population and Young Children 2000
Citations: Cassee, F; Critical Reviews in Toxicology 1998, 28, 73
Citations: Office of Pesticide Programs US Environmental Protection Agency; Assigning Values to Non-detected/Non-quantified Pesticide Residues in Human Health Food Exposure Assessments 2000, Report No: 6047

Citations: EPA; http://www.epa.gov/pesticides/cumulative 2002
Citations: EWG Environmental Working Group; http://www.ewg.org/reports/ops/.PDF 1998
Citations: FAO/WHO; Plant Production and Protection Paper 1990, 103/1
Citations: FAO/WHO; Plant Production and Protection Paper 1991, 113/1
Citations: FAO/WHO; Plant Production and Protection Paper 1993, 118
Citations: FAO/WHO; Plant Production and Protection Paper 1994, 124
Citations: FAO/WHO; Plant Production and Protection Papers 1995, 131/1 and 131/2
Citations: FAO/WHO; Plant Production and Protection Paper 1996, 137
Citations: FAO/WHO; Plant Production and Protection Paper 1997, 142
Citations: FAO/WHO; Plant Production and Protection Papers 1999, 152/1 and 152/2
Citations: FAO/WHO; Plant Production and Protection Paper 2000, 157
Citations: FAO/WHO; Plant Production and Protection Paper 2001, 165
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Citations: Mileson, B; Toxicological Sciences 1998, 41, 8
Citations: National Food Agency; The Danes' Dietary Habits 1995: Main Results [in Danish] 1996, 235
Citations: National Research Council; Pesticides in the Diets of Infants and Children 1993
Citations: Pesticide Safety Directorate; UK Methods for the Estimation of Dietary Intakes of Pesticide Residue 1995
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Citations: Van den Berg, M; Environmental Health Perspectives 1998, 106, 775
Citations: WHO; Guidelines for Predicting Dietary Intake of Pesticide Residues 1997, WHO/FSF/FOS/97.7
Citations: Wilkinson, C; Regulatory Toxicology and Pharmacology 2000, 31, 30 The aim of the study is to evaluate the potential cumulative effects of organophosphorus and carbamate pesticides that act through a common mechanism of toxicity, and to assess the long- and short-term risks for the Danish population. The intake ests. are based on dietary intake data collected in the Danish nation-wide food consumption survey in 1995. The pesticide data are based on the Danish pesticide residue-monitoring program from 1996-2001. The amt. of 35 organophosphorus pesticides and carbamates were included in the cumulative risk assessment. Processing factors, such as redn. of pesticide levels by rinsing and peeling, were applied in the exposure assessment. The \"Toxicity Equivalence Factor\" (TEF) approach was used to normalize the toxicity of the different organophosphorus and carbamate pesticides. Cumulative chronic exposure of organophosphorus and carbamates pesticides via fruit, vegetables and cereals is for adults 0.8-2% of the Acceptable Daily Intake (ADI) in chlorpyrifos equiv., and 0.03-11% of the ADI in methamidophos equiv.; and for children 2-5% of the ADI in the chlorpyrifos equiv., and 0.07-27% of the ADI in methamidophos equiv. Neither Acute Ref. Dose (ARfD) nor ADI was exceeded for any of the compds. studied. The results indicate that the Danish population is neither exposed to any cumulative chronic risk, nor at risk of acute exposure, from consumption of organophosphorus and carbamate pesticides from fruit, vegetables and cereals. [on SciFinder (R)] 0265-203X
pesticide/ carbamate/ organophosphorus/ risk/ assessment/ Danish/ diet

609. Jensen, E. S. (1994). Leaching in Small Lysimeters of Nitrate Derived From Nitrogen-15-Labeled Field Pea Residues. *Journal of Environmental Quality, 23 (5) pp. 1045-1050, 1994.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0047-2425
Abstract: Field pea (Pisum sativum L.) crop residues labeled with superior 1 superior 5N were incorporated during September in small monolith lysimeters of a sandy loam soil. The leaching of superior 1 superior 5N-labeled and nonlabeled NO inferior 3 to below 45 cm was studied during the subsequent 2 to 3 yr comparing (i) planted vs. unplanted soil and (ii) with and without pea residue incorporation. The peak flux of labeled NO inferior 3-N from uncropped soil occurred in December. During the first leaching period (September-April), 15 and 7% of the residue N was

recovered as NO inferior 3 in the percolate in the two experiments, corresponding to 18 and 13% of total NO inferior 3-N in the percolates, respectively. The difference observed in leaching of labeled N in the two experiments was mainly due to a much higher drainage volume in the first experiment. The different residue particle sizes, 10 mm or less than 3 mm, used in the two experiments may have influenced the immobilization-mineralization of N in the soil differently and consequently the potential for NO inferior 3 leaching. Pea residue N constituted 10 to 15% and 5% of total NO inferior 3-N leached from unplanted soil in the second and third leaching periods, respectively. Incorporating the ground pea residues reduced the total amount of NO inferior 3 leached by 15% during the first leaching period, indicating that the pea residue may be an important factor in controlling leaching losses. Ryegrass (Lolium perenne L.) established on lysimeters at the time of residue incorporation reduced the total leaching of N in the first leaching period by 15%, but in the second and third leaching period grass eliminated NO inferior 3 leaching completely.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science
Subfile: Plant Science

610. Jiang, Z. W., Wang, S. M., Zhang, Z. H., and Huang, H. W. (2004). Pollen Morphology of Actinidia and Its Systematic Significance. *Acta Phytotaxonomica Sinica, 42 (3) pp. 245-260, 2004* .
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ISSN: 0529-1526
Descriptors: Actinidia
Descriptors: Pollen morphology
Descriptors: Systemtic significance
Abstract: There exist many taxonomic uncertainties in the genus Actinidia Lindl. as to the circumscription of sections and treatment of closely related species because of natural interspecific crossing. Little has been attempted to use micromorphological characters to address the problems. Pollen morphology of 21 species, 6 varieties and 4 interspecific hybrids (F<inf>1</inf>) of the genus Actinidia was studied using SEM. A detailed description of the pollen grains was presented and a key to the species of the genus was given based on the pollen morphology observed. The results were summarized as follows: (1) The pollen grains are mainly prolate to subspheroidal in shape, and there were less distinct interspecific differences in the shape than those in size and ornamentation. (2) Most species introduced from the wild have three colporate apertures rather than three colporoid apertures as previously reported, the reason for which could be presumed that the pollen materials observed were harvested from specimens collected from different places with different habitats and that the plants might have undergone various crossings in the wild. (3) The pollen grains of interspecific hybrids were hollow and infertile, which may be due to the different ploidy levels between the parental species, a phenomenon common in the genus Actinidia . (4) The pollen of cultivated staminate varieties was compared with that of the wild types, and the ornamentation became finer than that of the later ones. This characteristic was presumed to be an important evolutionary trait beneficial to pollination in dioecious plants, a phenomenon which is worthy of further study. (5) The pollen size of male plant individuals is found to be somewhat correlated with the fruit size, a phenomenon which may be helpful for early selection of hybrids. 28 refs.
Language: Chinese
English; Chinese
Publication Type: Journal
Publication Type: Article
Country of Publication: China
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy

Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Subfile: Plant Science

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Chem Codes : Chemical of Concern: ABT,PSM,PPG,ACP,CBL,DEM,DDT,ES,MLN,MOM,Naled,PRN,DMT,MP,TXP Rejection Code: REFS CHECKED/REVIEW .

612. Johnson, P. and Richards, E. G. (1962). The study of legumin by depolarization of fluorescence and other physicochemical methods. *Archives of Biochemistry and Biophysics* 97: 260-276.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Legumin, a protein isolated from pea seeds (Pisum sativum) has been examined by physicochemical methods, and a molecular weight of 398,000 +/- 15,000 has been obtained in reasonable agreement with some previous estimates. It is not possible to decide between a prolate or oblate ellipsoid of low axial ratio as a suitable hydrodynamic model; both are in reasonable agreement with the indications of electron microscopy. The rotational relaxation time deduced from depolarization of fluorescence measurements of conjugates of the protein with fluorescent dyes is six times smaller than the minimum calculated for the relaxation time of the above models. Intramolecular freedom of rotation must be responsible. Detailed examination of depolarization measurements indicates that the relaxation time changes more rapidly with temperature than the usual linear dependance on [eta]/T, and certain irreversible features are apparent above 50 [degree sign]C. The relaxation time also decreases as the pH deviates from the isoelectric point in the absence of any molecular weight changes. At low urea concentration, the relaxation time increases slightly, probably because of urea absorption and interference with internal rotation. At higher concentrations of urea, in the presence of guanidine hydrochloride, and at extremes of pH where molecular weight changes are involved, further decreases in relaxation time are involved.
http://www.sciencedirect.com/science/article/B6WB5-4DW2CW2-C3/2/0210e2a6aaac8a1f16f5335986260800

613. Johnson, W. W. and Finley, M. T. (1980). Handbook of Acute Toxicity of Chemicals to Fish and Aquatic Invertebrates. *Resour.Publ.137, Fish Wildl.Serv., U.S.D.I., Washington, D.C* 98 p. (OECDG Data File) (Publ As 6797).
Chem Codes: EcoReference No.: 666
Chemical of Concern: EDT,RSM,Captan,CBF,CBL,DFZ,PSM,24DXY,ACP,ACR,AZ,BS,Captan,CMPH,CPY,DBN,DMB,DMT,DPDP,DS,DU,DZ,FO,GYP,HCCH,HXZ,MDT,MLN,MLT,MOM,MP,Naled,OYZ,PRT,SZ,TBC,TPR,As,Pb Rejection Code: PUBL AS.

614. Jones, R. L. and Hinesly, T. D. (1986). Potassium Losses in Runoff and Drainage Waters From Cropped, Large-Scale Lysimeters. *J environ qual* 15: 137-140.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Losses of total recoverable potassium (K) were measured in runoff and percolate waters from field lysimeter plots of Blount silt loam (fine, illitic, mesic Aeric Ochraqualfs) from May 1972 through April 1974. Six plots were irrigated annually with digested sewage sludge, while another six plots which had been treated with a complete fertilizer were irrigated with well water. Each year all plots were fertilized with KCl in amounts that supplied 269 kg K ha-1 prior to the preparation of a seedbed for corn (Zea mays L.). for the 2 yr of record, combined K losses in runoff and drainage waters from sludge-treated plots averaged 41.9 and 8.2 kg ha-1, respectively. For the same years, losses from plots irrigated with well water averaged 23.3 and 10.5 kg K ha-1 in runoff and drainage waters, respectively. The differences between treatments within each year were not significant, but they were significant between years within treatment. Large K losses occurred in runoff during hea

LANGUAGE: eng

615. Josephsen, Jytte and Klaenhammer, Todd (1990). Stacking of three different restriction and modification systems in Lactococcus lactis by cotransformation. *Plasmid* 23: 71-75.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Four plasmids encoding restriction and modification (R/M) systems are described that are different in the specificity of their restrictive activity toward the small isometric phage p2 and prolate phage c2. The R/M plasmids were cotransformed into Lactococcus lactis MG1363 with pVS2, encoding resistance to chloramphenicol and erythromycin, to indicate successful transformation events. Analysis of cotransformants showed that three different R/M plasmids could be combined in L. lactis MG1363. The efficiency at which phage plaqued on the transformants decreased as the number of R/M plasmids increased. Some plasmid combinations were unstable suggesting replicon incompatibility.
http://www.sciencedirect.com/science/article/B6WPF-4DP5KVH-B0/2/e093460548651c92ec8fe8379985069b

616. Josephsen, Jytte and Vogensen, Finn K. (1989). Identification of three different plasmid-encoded restriction/modification systems in Streptococcus lactis subsp. cremoris W56. *FEMS Microbiology Letters* 59: 161-166.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Streptococcus lactis subsp. cremoris W56 (S. cremoris W56) is a strain partially resistant to phage attack. Derivatives which had lost either plasmid pJW563 or pJW566 no longer expressed the restriction and modification systems encoded by these plasmids. Genetic evidence for the correlation between the plasmids and the R/M systems was obtained by transformation. In addition, a third R/M system was discovered among the transformants and was shown to be encoded by pJW565. Thus, genetic evidence for at least 3 distinct R/M systems encoded by plasmids in S. cremoris W56 is presented. One of the R/M-systems showed stronger restriction of the isometric phage p2 than of the prolate phage c2. The other two systems restricted both classes of phages with equal efficiencies. Streptococcus lactis/ Restriction and modification/ Phage restriction/ Streptococcus cremoris W56 http://www.sciencedirect.com/science/article/B6T2W-476HP9K-F4/2/ff91883614d3328eea42474894182eb9

617. Juhler, R. K., Larsen, S. B., Meyer, O., Jensen, N. D. , Spano, M., Giwercman, A., and Bonde, J. P. (1999). Human Semen Quality in Relation to Dietary Pesticide Exposure and Organic Diet. *Archives of environmental contamination and toxicology* 37: 415-423.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The objective of the study was to corroborate or refute the hypothesis that farmers having a high intake of organic grown commodities have a high semen quality due to their expected lower level of dietary pesticides intake. Food frequency data and semen were collected from 256 farmers (171 traditional farmers and 85 organic farmers, overall participation rate: 32%) who were selected from central registers. Each farmer delivered one semen sample before the spraying season started. The farmers wer ual mean intake of single commodities, such as rice, potato, and pork meat. The current individual dietary intake of 40 pesticides was estimated using food frequencies and generalized serving size data in combination with data on pesticide concentrations in food commodities as obtained from the National Danish Food Monitoring Program. The estimated pesticide intake was significantly lower among farmers of group H, but for all three groups of farmers the average dietary intake of 40 pesticides wa The group of men without organic food intake had a significant lower proportion of morphologically normal spermatozoa, but in relation to 14 other semen parameters no significant differences werefound between the groups. Intake of 40 individual pesticides was correlated with four semen parameters (concentration, percentage dead spermatozoa, percentage normal sperm heads, and motility (VCL)). Five significant correlations (p value 0.01) were found among the 160 comparisons in relation to percent sion, the estimated dietary intake of 40 pesticides did not entail

a risk of impaired semen quality, but precautions should be taken when generalizing this negative result to populations with a higher dietary exposure level or an intake of other groups of pesticides.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: GENITALIA
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-General
KEYWORDS: Reproductive System-General
KEYWORDS: Toxicology-Foods
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

618. Juhler, Rene K., Lauridsen, Milter Green, Christensen, Mette Rindom, and Hilbert, Gudrun (1999). Pesticide residues in selected food commodities: results from the Danish National Pesticide Monitoring Program 1995-1996. *Journal of AOAC International* 82: 337-358.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:328251
Chemical Abstracts Number: CAN 131:115532
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mandarin orange (Clementine; pesticides of food of Denmark); Fats and Glyceridic oils Role: BSU (Biological study, unclassified), BIOL (Biological study) (beef; pesticides of food of Denmark); Cod (liver; pesticides of food of Denmark); Pesticides (organochlorine; pesticides of food of Denmark); Actinidia chinensis; Apple; Apricot; Banana; Bean; Blackberry; Bran; Broccoli; Brussels sprout; Butter; Cabbage; Capsicum; Carrot; Cauliflower; Celeriac; Celery; Cheese; Cherry; Chinese cabbage; Cucumber; Currant; Eel; Egg; Eggplant; Fish; Food contamination; Fruit; Gooseberry; Grape; Grapefruit; Herring; Kale; Leek; Lemon; Lettuce; Mackerel; Mandarin orange; Meat; Melon; Mushroom; Nectarine; Onion; Orange; Oregano; Parsley; Pea; Peach; Pear; Pesticides; Plum; Potato; Radish; Raspberry; Salmon; Squash; Strawberry; Thyme; Tomato; Vegetable (pesticides of food of Denmark); Fats and Glyceridic oils Role: BSU (Biological study, unclassified), BIOL (Biological study) (pesticides of food of Denmark); Fats and Glyceridic oils Role: BSU (Biological study, unclassified), BIOL (Biological study) (poultry; pesticides of food of Denmark); Currant (red; pesticides of food of Denmark); Fats and Glyceridic oils Role: BSU (Biological study, unclassified), BIOL (Biological study) (swine; pesticides of food of Denmark)
CAS Registry Numbers: 50-29-3 (DDT); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9

(Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 90-43-7 ([1,1'-Biphenyl]-2-ol); 99-30-9 (Dichloran); 101-21-3 (Chloropropham); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (HCB); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 301-12-2 (Oxydemeton-methyl); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 333-41-5 (Diazinon); 563-12-2 (Ethion); 594-07-0D (Dithiocarbamic acid); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1024-57-3 (cis-Heptachlor epoxide); 1563-66-2 (Carbofuran); 1825-21-4 (Pentachloroanisole); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2921-88-2 (Chloropyriphos); 3689-24-5 (Sulfotep); 10605-21-7 (Carbendazim); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 23103-98-2 (Pirimicarb); 29232-93-7 (Pirimiphos-methyl); 32809-16-8 (Procymidone); 34643-46-4 (Prothiofos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 41198-08-7 (Profenofos); 50471-44-8 (Vinclozolin); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl); 68085-85-8 (Cyhalothrin); 82657-04-3 (Bifenthrin) Role: POL (Pollutant), OCCU (Occurrence)   (of food of Denmark)

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Citations: 2) Dejonckheere, W; J AOAC Int 1996, 79, 97
Citations: 3) Andersson, A; Fresenius' J Anal Chem 1991, 339, 387
Citations: 4) FDA Monitoring Program; J AOAC Int 1993, 76, 127A
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Citations: 6) Winter, C; Reg Toxicol Pharmacol 1992, 15, 137
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Citations: 8) Juhler, R; Arch Environ Contam Toxicol (submitted) 199X
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Citations: 16) National Food Agency of Denmark; Bekendtgorelse om oendring af bekendtgorelse om maksimalgroensevoerdier for indhold af bekoempelsesmidler i levnedsmidler 1988
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Citations: 20) National Food Agency of Denmark; Bekendtgorelse om oendring af bekendtgorelse om maksimalgroensevoerdier for indhold af bekoempelsesmidler i levnedsmidler (in Danish) 1995
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Citations: 39) Waliszewski, S; J AOAC Int 1996, 79, 784
Citations: 40) Kannan, K; Rev Environ Contam Toxicol 1997, 152, 1 The paper presents results of analyses of 4182 samples collected from Jan. 1995 to Dec. 1996 for the Danish National Pesticide Monitoring Program. The program basis is a random sample control supplemented with a target control. The objectives of the control are to monitor consumer exposure to health hazards and to enforce national and European Community regulations. The Danish Veterinary and Food Administration is responsible for establishing methods, data manipulation, and evaluation, but actual analyses are performed at 4 regional labs. In addn. to a description of the Danish National Pesticide Monitoring Program on food, the effects of lowering the reporting limits are discussed. Pesticides included are those in current use as well as chlorinated pesticides like lindane, DDT, and HCB, occurring in food now primarily as a result of environmental contamination. Commodities analyzed are fruits, vegetables, cereals, bran, fish, and animal products such as meat, butter, cheese, fat, and eggs. In fruits and vegetables, residues were detected in 10% of 2515 samples, with higher incidences of detection for foreign commodities. Violation rate was 0.6%. In food of animal origin, low levels of organochlorine pesticides were detected in most fish samples and in more than half of the animal product samples. However, no results exceeding max. residue limits were found. No residues of organophosphorus pesticides were detected in the 231 meat samples analyzed. [on SciFinder (R)] 1060-3271 pesticide/ food/ Denmark;/ fruit/ pesticide/ Denmark;/ vegetable/ pesticide/ Denmark;/ dairy/ product/ pesticide/ Denmark;/ meat/ pesticide/ Denmark

619. Jullian, Carolina, Brunet, Juan E., Thomas, Vickey, and Jameson, David M. (1989). Time-resolved fluorescence studies on protoporphyrin IX-apohorseradish peroxidase. *Biochimica et Biophysica Acta (BBA) - Protein Structure and Molecular Enzymology* 997: 206-210.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The hemin moiety of horseradish peroxidase (donor: hydrogygen-peroxide oxidoreductase, EC 1.11.1.7) was removed and the apoprotein reconstituted with the fluorescent protoporphyrin IX. Steady-state and time-resolved fluorescence properties of the HRP(desFe) adduct were examined; the multifrequency phase and modulation method was utilized for lifetime and dynamic polarization studies. The emission spectrum of HRP(desFe) had maxima at 633 and 696 nm. The lifetime of this emission was characterized by a single exponential decay of 16.87 ns at 22[degree sign]C. Debye rotational relaxation times for HRP(desFe) were determined using both static (Perrin plot) and dynamic (differential phase and modulation fluorometry) methods; these two approaches gave values of 96 and 86 ns, respectively. A spherical protein of HRP's molecular weight and partial specific volume would be expected to have a Debye rotational relaxation time, at 22[degree sign]C, in the range of 50 to 60 ns, depending upon the extent of hydration. Hence our results indicate that HRP(desFe) is asymmetric; the global rotational relaxation times observed are consistent with those of a prolate ellipsoid with an axial ratio of 3:1. Horseradish peroxidase/ Protoporphyrin IX/ Fluorescence http://www.sciencedirect.com/science/article/B6T21-486T7YS-DD/2/10dcb269a672b7cbb62bc89cd2987df7

620. Jungkunz, G. (1988). Additional Pesticides Detectable With the Becker Method. *Lebensmittelchem gerichtl chem* 42: 86.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM PLANT VEGETABLE
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: METABOLISM
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/CHEMISTRY
MESH HEADINGS: VEGETABLES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Metabolism-General Metabolism
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Plant Physiology
KEYWORDS: Horticulture-Vegetables
KEYWORDS: Pest Control
KEYWORDS: Plantae-Unspecified
LANGUAGE: ger

621. Junk, G. A. and Richard, J. J (1984). Pesticide disposal sites: sampling and analyses. *ACS Symposium Series* 259: 69-95.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1984:624803
Chemical Abstracts Number: CAN 101:224803
Section Code: 5-6
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 4, 19, 60
Document Type: Journal
Language: written in English.

Index Terms: Wastes (pesticidal, disposal of, pollution in relation to); Environmental analysis; Soil analysis (pesticide residue from waste disposal detn. in); Air pollution; Soil pollution; Water pollution (pesticide waste disposal in relation to); Pesticides (wastes, disposal of, pollution in relation to)
CAS Registry Numbers: 60-51-5; 63-25-2; 72-43-5; 86-50-0; 93-65-2; 93-76-5; 94-75-7; 101-21-3; 115-29-7; 115-32-2; 118-74-1; 121-75-5; 122-34-9; 132-67-2; 133-06-2; 133-07-3; 133-90-4; 732-11-6; 741-58-2; 759-94-4; 957-51-7; 959-98-8; 1194-65-6; 1582-09-8; 1861-32-1; 1897-45-6; 1912-24-9; 1918-00-9; 1918-00-9; 1918-16-7; 1982-47-4; 2008-39-1; 2008-41-5; 2758-42-1; 4685-14-7; 8018-01-7; 9006-42-2; 12427-38-2; 15972-60-8; 16752-77-5; 17804-35-2; 21087-64-9; 21725-46-2; 25057-89-0; 26399-36-0; 33213-65-9; 33629-47-9; 38641-94-0; 40487-42-1; 51218-45-2; 51990-04-6 Role: BIOL (Biological study) (wastes contg., disposal of, pollution in relation to) Pesticides and their degrdn. products were analyzed in samples taken from two disposal pits located at Iowa State University, Ames, IA. The 1st was an eight-year-old 30,000 L concrete-lined pit where over 50 kg of more than 40 different pesticides had been deposited. The 2nd was a two-year-old 90,000 L polyethylene-lined pit where 150 kg of 24 different pesticides had been deposited. The pesticide concns. in the soil and liq. samples taken from these pits showed extreme variations which necessitated collecting and compositing samples from many different points to est. the av. pesticide concns. and their change with time. Water, soil and air samples were also collected and analyzed to evaluate the possible contamination of the surrounding environment. Conclusions from these investigations are: 1) pit disposal systems are effective in contg. many pesticides to the extent that release to surrounding air and water is insignificant; 2) possible environment effects can be established by avoiding the extreme difficulties assocd. with solid samples and taking only liq. samples for analyses; 3) pit disposal systems are effective for pesticides as well as other org. chem. [on SciFinder (R)] 0097-6156
pesticide/ waste/ disposal/ pollution

622. Jurgens-Gschwind, S. and Jung, J. (Results of Lysimeter Trials at the Limburgerhof Facility, 1927 - 1977: the Most Important Findings From 50 Years of Experiments. *Soil sci. 127(3): 146-160 1979 (24 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: PESTAB. A summary of results of 50 yr of experimentation of plant-soil systems is presented. Among the most important conclusions drawn from over 1.5 million soil and 190,000 crop analyses is that the lysimeter trial is an accurate aid for establishing nutrient balances for the plant soil system. Among factors influencing transportation of substances into the soil are environmental considerations (weather, soil type, and vegetative cover) and the nature of the nutrient. Nitrogen and calcium are easily displaced and leached out of the soil, while the mobility of Mg and K is considerably less. Phosphorous is the least mobile primary nutrient in the soil, most of it is removed by the crop stand. Experiments with pesticides have shown that hormone-like weed killers such as 2,4-D, 2,4,5-T, and MCPA were not present in any sample percolate. Other herbicides (pyrazon, fluochloralin, and chlormequate chloride) were likewise not measurable at a depth of 1 m at a detection limit of 0.002 ppm.

623. Kadam, A. N. and Ghatge, B. B (1982). Hydrolysis studies on imidan. *Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry* 21B: 460-1.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1983:4612
Chemical Abstracts Number: CAN 98:4612
Section Code: 29-7
Section Title: Organometallic and Organometalloidal Compounds
Document Type: Journal
Language: written in English.
Index Terms: Hydrolysis (of imidan)

CAS Registry Numbers: 732-11-6 Role: RCT (Reactant), RACT (Reactant or reagent) (hydrolysis of); 607-26-1P; 32280-93-6P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of) Products, I and II, were identified in the title hydrolysis. [on SciFinder (R)] 0376-4699 imidan/ hydrolysis

624. Kadam, A. N. and Ghatge, B. B (1984). Thin-layer chromatography of imidan and its degradation products. *Pesticides* 18: 20-21.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1984:467661
Chemical Abstracts Number: CAN 101:67661
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Chromatography (of imidan and its degrdn. products)
CAS Registry Numbers: 732-11-6; 732-11-6D Role: BIOL (Biological study) (TLC of); 85-41-6; 88-97-1; 88-99-3; 118-29-6; 3735-33-9 Role: BIOL (Biological study) (imidan degrdn. product, TLC of) A 2-phase TLC method (silica gel-Plaster of Paris; 9:1 CHCl3-C6H6 and 1:1 CHCl3-EtOH solvent systems) was used for sepg. imidan [732-11-6] and its degrdn. products: imidoxon [3735-33-9], N-hydroxymethyl phthalimide [118-29-6], phthalimide [85-41-6], phthalamic acid [88-97-1], and phthalic acid [88-99-3]. The CHCl3-C6H6 system was used for the resoln. of the 1st 4 compds. and the 2nd solvent system (CHCl3-EtOH) for the other 2 compds. TLC development in an I chamber gave spots colored differently (brown, yellow, colorless). [on SciFinder (R)] 0031-6148 TLC/ imidan/ degrdn/ product

625. Kadenczki, Lajos, Arpad, Zoltan, Gardi, Ivan, Ambrus, Arpad, Gyorfi, Laszlo, Reese, Gabriela, and Ebing, Winfried (1992). Column extraction of residues of several pesticides from fruits and vegetables: a simple multiresidue analysis method. *Journal of AOAC International* 75: 53-61.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:192720
Chemical Abstracts Number: CAN 116:192720
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in fruits and vegetables by column extn. and gas chromatog.); Chromatography (of pesticide multiresidues, column extn. for); Apple; Apricot; Banana; Bean; Broccoli; Brussels sprout; Carrot; Celery; Cucumber; Eggplant; Fruit; Grape; Kohlrabi; Lemon; Lettuce; Melon; Pea; Pear; Plum; Potato; Radish; Rubus idaeus; Strawberry; Tomato; Turnip; Vegetable (pesticide multiresidues detn. in, by column extn. and gas chromatog.); Capsicum annuum annuum (grossum group, pesticide multiresidues detn. in, by column extn. and gas chromatog.); Extraction (liq.-solid, of pesticides, from fruits and vegetables, for multiresidue gas chromatog.); Beet (red, pesticide multiresidues detn. in, by column extn. and gas chromatog.); Cherry (sour, pesticide multiresidues detn. in, by column extn. and gas chromatog.); Beet (sugar, pesticide multiresidues detn. in, by column extn. and gas chromatog.); Cherry; Orange (sweet, pesticide multiresidues detn. in, by column extn. and gas chromatog.); Currant (R. nigrum, pesticide multiresidues detn. in, by column extn. and gas chromatog.)
CAS Registry Numbers: 50-29-3 (DDT); 53-19-0 (o,p'-DDD); 55-38-9 (Fenthion); 56-38-2

(Parathion-ethyl); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-54-8 (DDD); 72-55-9 (DDE); 76-44-8 (Heptachlor); 82-68-8 (Quintozen); 86-50-0 (Azinphos-methyl); 115-29-7 (Endosulfan); 116-29-0 (Tetradifon); 118-74-1 (HCB); 121-75-5 (Malathion); 122-14-5; 129-20-4 (Oxazolidin); 133-06-2; 133-07-3 (Folpet); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 309-00-2 (Aldrin); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 534-52-1 (DNOC); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 759-94-4 (EPTC); 789-02-6 (o,p'-DDT); 834-12-8 (Ametryne); 886-50-0 (Terbutryn); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (a-Endosulfan); 973-21-7 (Dinobuton); 1024-57-3 (Heptachlor epoxide); 1134-23-2 (Cycloate); 1563-66-2 (Carbofuran); 1582-09-8; 1689-83-4; 1836-75-5 (Nitrofen); 1861-40-1 (Benefin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 2008-41-5 (Butylate); 2032-65-7 (Mercaptodimethur); 2104-96-3 (Bromophos); 2212-67-1 (Molinate); 2227-17-0 (Dienochlor); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2540-82-1 (Formothion); 2597-03-7 (Phenthoate); 2813-95-8 (Dinosebacetate); 2921-88-2; 3060-89-7 (Metobromuron); 3347-22-6 (Dithianon); 4658-28-0 (Aziprotryn); 5131-24-8 (Ditalimphos); 5221-53-4 (Dimethirimol); 5836-10-2 (Chloropropylate); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6923-22-4; 6988-21-2 (Dioxacarb); 7287-19-6; 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10552-74-6; 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 13684-63-4 (Phenmedipham); 15972-60-8 (Alachlor); 18181-80-1; 21087-64-9; 22212-55-1 (Benzoylprop-ethyl); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 23947-60-6 (Ethirimol); 24017-47-8 (Triazophos); 24201-58-9 (Dichlozoline); 26259-45-0 (Secbumeton); 28249-77-6 (Benthiocarb); 29232-93-7 (Pirimiphos-methyl); 32809-16-8 (Procymidone); 33213-65-9; 33693-04-8 (Terbumeton); 34256-82-1 (Acetochlor); 36734-19-7 (Iprodione); 37893-02-0 (Flubenzimine); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41483-43-6 (Bupirimate); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 55285-14-8 (Carbosulfan); 55290-64-7 (Dimethipin); 57837-19-1 (Metalaxil); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 61213-25-0 (Flurochloridone); 63284-71-9 (Nuarimol); 67375-30-8 (Alphamethrin); 67564-91-4 (Fenpropimorph); 69409-94-5 (Fluvalinate); 69581-33-5 (Cyprofuram); 69806-34-4 (Haloxyfop); 69806-50-4 (Fluazifop-butyl); 71626-11-4 (Benalaxyl); 73886-28-9 (Heptopargil); 75736-33-3; 78587-05-0 (Hexythiazox); 80544-75-8 (Ciobutide); 83733-82-8 (Fosmethilan); 91465-08-6 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in fruits and vegetables by column extn. and gas chromatog.) Homogeneous sample pulp, prepd. from fruits and vegetables of different water content with or without addnl. water, was adsorbed on the surface of activated Florisil to obtain a free-flowing powder, which was extd. in a glass column with EtOAc or CH2Cl2-Me2CO (9:1). In most cases, no further cleanup was necessary for subsequent gas chromatog. The recovery of pesticide residues, including carbamate, organochlorine, organophosphate, synthetic pyrethroid, triazine, urea, and misc. pesticides, was generally >=80%, and was independent of the sample material. The column extn. was faster, less laborious, and less expensive than extns. based on traditional techniques, liq. partition, or other conventional chromatog. procedures. [on SciFinder (R)] 1060-3271 pesticide/ detn/ fruit/ vegetable;/ solid/ phase/ extn/ pesticide;/ gas/ chromatog/ pesticide

626. Kagan, I. U. S., Voronina, V. M., and Ackermanm, G. ([Effect of Phthalophos on Embryogenesis and Its Metabolism in the Body of White Rats and Their Embryos]. *Gig sanit. 1978, sep(9):28-31. [Gigiena i sanitariia]: Gig Sanit*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: NON-ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Cell Differentiation/*drug effects
MESH HEADINGS: Dose-Response Relationship, Drug

MESH HEADINGS: Embryo/*drug effects/metabolism
MESH HEADINGS: Embryo Loss/chemically induced
MESH HEADINGS: Embryonic Induction/*drug effects
MESH HEADINGS: Female
MESH HEADINGS: Gestational Age
MESH HEADINGS: Insecticides/*toxicity
MESH HEADINGS: Phosmet/metabolism/*toxicity
MESH HEADINGS: Pregnancy
MESH HEADINGS: Rats
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Vliianie ftalofosa na émbriogenez i efo metabolizm v organizme belykh krys i ikh émbrionov.

627. Kagan, Y. S. (1991). Toxicological-Hygienic Requirements for Study Registration and Regulations of Pesticides in the Ussr. *Ware, g. W. (Ed.). Reviews of environmental contamination and toxicology, vol. 117. Ix+165p. Springer-verlag new york inc.: New york, new york, usa* Berlin, germany. Illus. Maps. Isbn 0-387-97403-2; isbn 3-540-97403-2.; 0: 95-126.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM HUMAN IMPLICATION CLASSIFICATION
MESH HEADINGS: BIOLOGY/CLASSIFICATION
MESH HEADINGS: TERMINOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: General Biology-Taxonomy
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

628. Kagan Y, S., Voronina, V. M., and Akkerman, G. (Effect of Phthalophos on the Embryogenesis and Its Metabolism in Albino Rats and Their Embryos. *Gig Sanit.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The effect of phthalophos (Ph) on the embryogenesis of 13 albino rats and 650 embryos was studied to collect data concerning pesticide metabolism in animals and embryos, and the relationship between the embryotoxic properties of the compound and its dosage and reaction time. The toxin (0.3-15 mg/kg/day, 0.0002-0.1 LD50) was injected via the gastrointestinal tract for the duration of pregnancy. The effect of Ph on embryogenesis was measured after death of the embryos or by developed anomalities. Ph was found to have an embryotoxic effect in dosages non-toxic to the mother. When administered in large doses it had teratogenic features. The embryotoxic effect was due to changes in the molecular structure and to the formation of phthalomides during metabolism.
LANGUAGE: rus

629. Kahn, Iiris , Fara, Dan, Karelson, Mati, Maran, Uko, and Andersson, Patrik L (2005). QSPR Treatment of the Soil Sorption Coefficients of Organic Pollutants. *Journal of Chemical Information and Computer Sciences* 45: 94-105.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Database: CAPLUS
Accession Number: AN 2004:1119006
Chemical Abstracts Number: CAN 142:55575
Section Code: 19-9
Section Title: Fertilizers, Soils, and Plant Nutrition
Document Type: Journal
Language: written in English.
Index Terms: Simulation and Modeling (QSPR models of soil sorption coeffs. of org. pollutants); Alcohols; Amides; Esters; Phenols; Phosphates Role: POL (Pollutant), OCCU (Occurrence) (QSPR models of soil sorption coeffs. of org. pollutants); Soil pollution; Sorption (QSPR treatment of soil sorption coeffs. of org. pollutants); Acids Role: POL (Pollutant), OCCU (Occurrence) (org.; QSPR models of soil sorption coeffs. of org. pollutants); QSPR (sorption; QSPR treatment of soil sorption coeffs. of org. pollutants)
CAS Registry Numbers: 62-53-3D (Aniline); 64-10-8D (Phenylurea); 98-95-3D (Nitrobenzene); 100-47-0D (Benzonitrile); 103-84-4D (Acetanilide); 463-77-4D (Carbamic acid); 12654-97-6D (Triazine); 26471-56-7D (Dinitroaniline); 37306-44-8D (Triazole) Role: POL (Pollutant), OCCU (Occurrence) (QSPR models of soil sorption coeffs. of org. pollutants); 55-38-9 (Fenthion); 56-53-1 (Diethylstilbestrol); 60-09-3 (4-Aminoazobenzene); 85-44-9 (1,3-Isobenzofurandione); 86-86-2 (1-Naphthaleneacetamide); 86-87-3 (1-NAA); 90-15-3 (1-Naphthol); 99-30-9 (Dicloran); 100-54-9 (3-Cyanopyridine); 101-05-3 (Anilazine); 101-77-9; 103-23-1 (Bis(2-ethylhexyl)adipate); 103-74-2 (2-Pyridineethanol); 115-28-6 (Chlorendic acid); 115-32-2 (Dicofol); 122-66-7 (1,2-Diphenylhydrazine); 134-32-7 (1-Naphthalenamine); 510-15-6 (Chlorobenzilate); 673-04-1 (Simetone); 709-98-8 (Propanil); 732-11-6 (Phosmet); 842-07-9; 957-51-7 (Diphenamid); 2122-70-5; 2307-68-8 (Pentanochlor); 2593-15-9 (Etridiazole); 4780-79-4 (1-Naphthalenemethanol); 6422-86-2; 6923-22-4 (Monocrotophos); 12407-86-2 (Trimethacarb); 22248-79-9 (Stirofos); 22781-23-3 (Bendiocarb); 26644-46-2 (Triforine); 30560-19-1 (Acephate); 32357-46-3; 33820-53-0 (Isopropalin); 35400-43-2 (Sulprofos); 36734-19-7 (Iprodione); 40487-42-1 (Pendimethalin); 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 51707-55-2 (Thidiazuron); 55283-68-6 (Ethalfluralin); 62924-70-3; 66215-27-8 (Cyromazine); 72490-01-8 (Fenoxycarb); 81334-34-1 (Imazapyr); 90982-32-4 (Chlorimuron-ethyl) Role: POL (Pollutant), OCCU (Occurrence) (QSPR treatment of soil sorption coeffs. of org. pollutants)
Citations: 1) Lyman, W; Handbook of Chemical Property Estimation Methods, Chapter 4 1982
Citations: 2) Wauchope, R; Pest Management Sci 2002, 58, 419
Citations: 3) Sabljic, A; Chemosphere 1995, 31, 4489
Citations: 4) Karelson, M; Molecular Descriptors in QSAR/QSPR 2000
Citations: 5) Sabljic, A; Chemosphere 2001, 43, 363
Citations: 6) Gawlik, B; Chemosphere 1997, 34, 2525
Citations: 7) Meylan, W; Environ Sci Technol 1992, 26, 1560
Citations: 8) Liao, Y; Bull Environ Contam Toxicol 1996, 56, 711
Citations: 9) Hong, H; Chemosphere 1997, 34, 827
Citations: 10) Baker, J; Water Environ Res 1997, 69, 136
Citations: 11) Baker, J; Chemosphere 2000, 41, 813
Citations: 12) Baker, J; Chemosphere 2001, 41, 213
Citations: 13) Muller, M; Chemosphere 1997, 35, 365
Citations: 14) Thomsen, M; Chemosphere 1999, 38, 2613
Citations: 15) Szabo, G; Chemosphere 1999, 39, 431
Citations: 16) Hansen, B; Chemosphere 1999, 39, 2209
Citations: 17) Dai, J; Bull Environ Contam Toxicol 1999, 62, 530
Citations: 18) Dai, J; Bull Environ Contam Toxicol 2000, 65, 190
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Citations: 21) Klamt, A; Environ Toxicol Chem 2002, 21, 2562
Citations: 22) Wu, C; Bull Environ Contam Toxicol 2001, 66, 777
Citations: 23) Wu, C; Bull Environ Contam Toxicol 2003, 70, 513
Citations: 24) Huuskonen, J; Environ Toxicol Chem 2003, 22, 816
Citations: 25) Huuskonen, J; J Chem Inf Comput Sci 2003, 43, 1457
Citations: 26) Delgado, E; J Chem Inf Comput Sci 2003, 43, 1928
Citations: 27) Gao, C; Environ Toxicol Chem 1996, 15, 1089
Citations: 28) Winget, P; Environ Sci Technol 2000, 34, 4733
Citations: 29) Kuhnt, G; Fresenius Environ Bull 1992, 1, 589
Citations: 30) Kuhnt, G; EUROSOILS - Identification, Collection, Treatment, Characterization 1994, 154
Citations: 31) Gawlik, B; Chemosphere 1998, 36, 2903
Citations: 32) Gawlik, B; Chemosphere 2000, 41, 1337
Citations: 33) Gerstl, Z; Isr J Chem 2002, 42, 55
Citations: 34) Andersson, P; J Chem Inf Comput Sci 2002, 42, 1450
Citations: 35) Lohninger, H; Chemosphere 1994, 29, 1611
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Citations: 38) Schrodinger Inc; MacroModel version 7.0 2000
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Citations: 51) Eriksson, L; J Chemometrics 2000, 14, 599
Citations: 52) Parr, R; J Am Chem Soc 1983, 105, 7512
Citations: 53) Pearson, R; Acc Chem Res 1993, 26, 250
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Citations: 55) Maran, U; Artificial Intelligence Methods and Tools for Systems Biology, Chapter 2 2004, 19
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Citations: 58) Sannigrahi, A; Adv Quantum Chem 1992, 23, 301
Citations: 59) Rohrbaugh, R; Anal Chim Acta 1987, 199, 99
Citations: 60) Kier, L; Molecular Connectivity in Structure-Activity Analysis 1986
Citations: 61) Stanton, D; J Chem Inf Comput Sci 1992, 32, 109
Citations: 62) Senesi, N; Migration and Fate of Pollutants in Soils and Subsoils 1993, 47
Citations: 63) Roy, W; Migration and Fate of Pollutants in Soils and Subsoils 1993, 169 General and class-specific QSPR models for soil sorption, logKOC, of 344 org. pollutants (0 < logKOC < 4.94) were developed using a large variety of theor. mol. descriptors based only on mol. structure. Two general models were obtained. The first model was derived for a structurally representative set of 68 chems. (R2=0.76, s=0.44), whereas the second involved a total of 344 compds. (R2=0.76, s=0.41). The first was validated using the data for the remaining 276 pollutants (R2=0.70, s=0.45). An addnl. validation of both models was performed using an independent set of 48 pollutants. Both models predict the logKOC at the level of exptl. precision, while the theor. mol. descriptors appearing in the QSPR models give further insight into the mechanisms of soil sorption. The anal. of the distribution of the residuals of the logKOC values calcd. by both general models indicated the need and possible advantages of modeling soil sorption for smaller

data sets related to individual classes of chems. Accordingly, QSPR models were also developed for 14 chem. classes. The descriptors appearing in these models were discussed as related to the possible interaction mechanisms in soil sorption. [on SciFinder (R)] 0095-2338 QSPR/ model/ sorption/ soil/ org/ pollutant

630. Kalbitz, K. and Wennrich, R. (Mobilization of Heavy Metals and Arsenic in Polluted Wetland Soils and Its Dependence on Dissolved Organic Matter. *Sci total environ. 1998, jan 8; 209(1):27-39. [The science of the total environment]: Sci Total Environ*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: The wetland soils of the Mulde river in the industrial district of Bitterfeld-Wolfen (Germany) are highly contaminated with heavy metals and arsenic. We studied the mobility of accumulated heavy metals and arsenic and the influence of dissolved organic matter (DOM) on element mobility. Undisturbed soil cores were taken from five different sites to represent a wide range of heavy-metal contamination, soil properties and dissolved organic carbon (DOC) concentrations. The acid-soluble concentrations (mostly equal to the total content) were up to 1100 mg kg-1 for Zn, 800 mg kg-1 for Cr, 364 mg kg-1 for Cu, 265 mg kg-1 for As and 37 mg kg-1 for Hg, depending on the sampling site. Percolation experiments using small lysimeters with undisturbed topsoil cores illustrated a considerable mobilization of Zn, Cd, Cu, Cr and Hg, depending on soil properties. Up to 80 micrograms l-1 Cd, 8 mg 1-1 Zn, 130 micrograms l-1 Cr, 160 micrograms l-1 Cu and 7 micrograms l-1 Hg were detected in the soil percolates. Arsenic mobilization was low. The concentration of Cr, Hg, Cu and As in the soil percolates was positively correlated with DOM. Besides the element content (mobile or acid-soluble), soil pH and soil characteristics describing the soil potential for heavy-metal adsorption (clay, oxides, cation exchange capacity), the DOC concentration in the soil solution should be known to access the potential mobilization of Hg, Cr, Cu and As. In contrast, Cd and Zn mobilization depends on soil pH and mobile element content, but not on DOM. Additional studies on two soil profiles (down to 1.5 m) confirmed the translocation of heavy metals from the highly contaminated topsoil into deeper soil horizons and into the groundwater and the influence of DOM as revealed with the percolation experiment. Our results also showed that DOM is of minor importance on the mobilization of heavy metals in soils with a low soil pH ($<$ 4.5).
MESH HEADINGS: Adsorption
MESH HEADINGS: Arsenic/*metabolism
MESH HEADINGS: Germany
MESH HEADINGS: Metals, Heavy/*metabolism
MESH HEADINGS: Organic Chemicals/*chemistry
MESH HEADINGS: *Soil Pollutants
MESH HEADINGS: Solubility
MESH HEADINGS: *Water Pollution
LANGUAGE: eng

631. Kalinoski, Henry T. and Smith, Richard D (1988). Pressure programmed microbore column supercritical fluid chromatography-mass spectrometry for the determination of organophosphorus insecticides. *Analytical Chemistry* 60: 529-35 .
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1988:89360
Chemical Abstracts Number: CAN 108:89360
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (phosphorus-contg., detn. of, by pressure programmed microbore

column supercrit. fluid chromatog. coupled with mass spectrometry); Chromatography (supercrit., coupled with mass spectrometry, for organophosphorus insecticide detn.)
CAS Registry Numbers: 52-85-7 (Famphur); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyrifos); 5598-13-0; 18181-70-9 (Iodofenphos); 21609-90-5 (Leptophos); 22248-79-9 (Tetrachlorvinphos) Role: ANT (Analyte), ANST (Analytical study) (detn. of, by pressure programmed microbore column supercrit. fluid chromatog. coupled with mass spectrometry) The use of the high flow rate (HFR) interface for supercrit. fluid chromatog.-mass spectrometry (SFC-MS) is shown to allow operation under conditions which provide efficient pressure programmed sepns. with appropriate microbore (packed) HPLC columns. The combined advantages of selectivity offered by the microparticle-packed stationary phase and variable solvating power of the supercrit. fluid are fully utilized in this approach. The greater sample loadings and lower detection limits possible using packed columns (based on concn. of sample in the injection solvent) compared with com. available capillary columns are demonstrated for the detn. of a series of organophosphorus insecticides. Low concns. of polar fluid modifiers, generally required for high-quality sepns. in packed-column SFC, also function as mild chem. ionization reagents. Broad classes of thermally labile, higher mol. wt., moderately polar pesticides are amenable to identification by SFC-MS, which provides a sensitive, selective, and broadly applicable technique for the identification of pesticide compds. with detection limits in the part-per-billion range. [on SciFinder (R)] 0003-2700 insecticide/ organophosphorus/ detn/ supercrit/ chromatog

632. Kamarli, A. P. ([Trial of Koral and Phthalophos in Hypodermatosis]. *Veterinariia. 1970, dec; 12:47-8. [Veterinariia]: Veterinariia*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Cattle
MESH HEADINGS: Cattle Diseases/*drug therapy
MESH HEADINGS: Hypodermyiasis/drug therapy/*veterinary
MESH HEADINGS: Insecticides/*therapeutic use
MESH HEADINGS: Organophosphorus Compounds/therapeutic use
MESH HEADINGS: Organothiophosphorus Compounds/therapeutic use
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Ispytanie korala i ftalofosa pri gipodermatoze.

633. Kambourova, Veska and Vassilev, Kosta (2001). Application of USES for estimation of PEC for pesticides and hazard assessment for aquatic environment. *NATO Science Series, IV: Earth and Environmental Sciences* 2: 73-78 .
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:386733
Chemical Abstracts Number: CAN 135:206566
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 5, 9, 61
Document Type: Journal
Language: written in English.
Index Terms: Toxicity (aquatic; pesticide water pollution and toxicity evaluation in relation to application of USES for estn. of PEC for pesticides and hazard assessment for aquatic environment); Algae; Aquatic animal; Crustacean; Fish; Fungicides; Herbicides; Insecticides; Water pollution (pesticide water pollution and toxicity evaluation in relation to application of USES for estn. of PEC for pesticides and hazard assessment for aquatic environment); Environmental pollution (pesticide; pesticide water pollution and toxicity evaluation in relation to application of USES for estn. of PEC for pesticides and hazard assessment for aquatic

environment)
CAS Registry Numbers: 58-89-9 (Lindane); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 76-87-9 (Fentin hydroxide); 85-00-7 (Diquat); 115-29-7 (Endosulfan); 121-75-5 (Malathion); 122-34-9 (Simazine); 133-07-3 (Folpet); 137-26-8 (Thiram); 298-00-0 (Parathion-methyl); 330-55-2 (Linuron); 732-11-6 (Phosmet); 886-50-0 (Terbutryn); 900-95-8 (Fentin-acetate); 944-22-9 (Fonofos); 1085-98-9 (Dichlofluanid); 1563-66-2 (Carbofuran); 1698-60-8 (Chloridazon); 1746-81-2 (Monolinuron); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2439-01-2 (Chinomethionat); 7287-19-6 (Prometryne); 7786-34-7 (Mevinphos); 10605-21-7 (Carbendazim); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 18691-97-9 (Methabenzthiazuron); 19937-59-8 (Metoxuron); 21087-64-9 (Metribuzin); 23560-59-0 (Heptenophos); 34205-21-5 (Dimefuron); 34256-82-1 (Acetochlor); 51218-45-2 (Metolachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Zeta-cypermethrin); 52888-80-9 (Prosulfocarb); 55285-14-8 (Carbosulfan); 60168-88-9 (Fenarimol); 65907-30-4 (Furathiocarb) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (pesticide water pollution and toxicity evaluation in relation to application of USES for estn. of PEC for pesticides and hazard assessment for aquatic environment)
Citations: 1) Anon; Official Journal of the European Communities 1991, L 230, 1
Citations: 2) Mackay, N; Proposal: Agrochemical Risk Assessment Dialogue Group for Europe, Proposal to SETAC - Europe 1996
Citations: 3) Kambourova, V; Central European Journal of Occupational and Environmental Medicine 1998, 4, 343
Citations: 4) Dura, G; Central European Journal of Occupational and Environmental Medicine 1998, 4, 328
Citations: 5) USES; Uniform System for the Evaluation of Substances (USES), version 1.0 1994, Distribution no 11144/150
Citations: 6) Linders, J; Chemosphere 1995, 31, 3237
Citations: 7) Anon; The Pesticide Manual Incorporating the Agrochemicals Handbook. Tenth edition 1994
Citations: 8) Linders, J; A Synopsis of the Environmental Aspects of 243 Pesticides 1994, Report No 679101014 Some issues of the modeling investigation carried out within the frame of the Danube Pesticide Study are discussed. The Netherlands' Uniform System for Evaluation of Substances (USES, Version 1.0) has been applied in order to est. the Predicted Environmental Concns. (PECs) in surface water for set of pesticides mainly used in the Danube region. Based on the obtained Hazard Quotients priority list have been performed according the potential of the pesticides to cause short- and long-term effects to the aquatic organisms. The results provide information for decision making support and elaboration of redn. programs for aquatic environment. [on SciFinder (R)] USES/ PEC/ pesticide/ hazard/ detn/ aquatic/ environment;/ toxicity/ pesticide/ aquatic/ uniform/ system/ evaluation/ substance;/ predicted/ environmental/ concn/ pesticide/ water/ pollution/ aquatic/ toxicity

634. Kamrin, M. A. (1997). Pesticide Profiles Toxicity Environmental Impact and Fate. *Kamrin, m. A. (Ed.). Pesticide profiles: toxicity, environmental impact, and fate. Xix+676p. Crc press publishers inc.: Boca raton, florida, usa* London, england, uk. Isbn 1-56670-190-2.; 0: Xix+676p.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK PESTICIDE TOXICITY PESTICIDES ENVIRONMENTAL IMPACT ENVIRONMENTAL FATE PESTICIDE INFORMATION PROFILE TOXICOLOGY INFORMATION BRIEFS EXPOSURE GUIDELINES
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL

MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Pest Control
LANGUAGE: eng

635. KAN-DO Office and Pesticides Team (1995). Accumulated pesticide and industrial chemical findings from a ten-year study of ready-to-eat foods. *Journal of AOAC International* 78: 614-31.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:580186
Chemical Abstracts Number: CAN 123:31620
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (contamination of ready-to-eat foods in American diet by industrial chems. and pesticide); Water pollution (industrial chems. and pesticides of drinking water in American diet); Apple; Asparagus; Avocado; Bakery products; Banana; Bean; Beer; Beverages; Bread; Broccoli; Butter; Buttermilk; Cabbage; Carrot; Catsup; Cauliflower; Celery; Cheese; Corn; Cowpea; Cream substitutes; Cucumber; Cucurbita pepo melopepo; Diet; Egg; Fish; Food contamination; Fruit; Kale; Margarine; Mayonnaise; Milk; Mushroom; Onion; Orange; Pasta; Pea; Peach; Peanut; Peanut butter; Pear; Pickles; Plum; Potato; Prune; Puddings; Radish; Raisin; Rice; Sauerkraut; Shrimp; Soups; Spinach; Strawberry; Sweet potato; Syrups; Tomato; Tomato paste, puree, and sauce; Watermelon; Wine (industrial chems. and pesticides of ready-to-eat foods in American diet); Pecan (nut; industrial chems. and pesticides of ready-to-eat foods in American diet); Chocolate (powd.; industrial chems. and pesticides of ready-to-eat foods in American diet); Canned foods (beets, industrial chems. and pesticides of ready-to-eat foods in American diet); Coffee products; Tea products (beverages, industrial chems. and pesticides of ready-to-eat foods in American diet); Soups (bouillons, beef, industrial chems. and pesticides of ready-to-eat foods in American diet); Confectionery (candy, industrial chems. and pesticides of ready-to-eat foods in American diet); Pineapple; Vegetable (canned, industrial chems. and pesticides of ready-to-eat foods in American diet); Melon (cantaloupe, industrial chems. and pesticides of ready-to-eat foods in American diet); Paraffin waxes and Hydrocarbon waxes Role: POL (Pollutant), OCCU (Occurrence) (chloro, industrial chems. and pesticides of ready-to-eat foods in American diet); Capsicum annuum annuum (grossum group, industrial chems. and pesticides of ready-to-eat foods in American diet); Cream (half-and-half, industrial chems. and pesticides of ready-to-eat foods in American diet); Chemicals (industrial, contamination of ready-to-eat foods in American diet by industrial chems. and pesticide); Oat (meal, industrial chems. and pesticides of ready-to-eat foods in American diet); Canned foods (pineapple, industrial chems. and pesticides of ready-to-eat foods in American diet); Beet (red, canned, industrial chems. and pesticides of ready-to-eat foods in American diet); Apple (sauce, industrial chems. and pesticides of ready-to-eat foods in American diet); Condiments (sauces, white, industrial chems. and pesticides of ready-to-eat foods in American diet); Milk preparations (shakes, industrial chems. and pesticides of ready-to-eat foods in American diet); Cucurbita (squash, winter, industrial chems. and pesticides of ready-to-eat foods in American diet); Cherry (sweet, industrial chems. and pesticides of ready-to-eat foods in American diet); Fats and Glyceridic oils Role: BSU (Biological study, unclassified), BIOL (Biological study) (vegetable, industrial chems. and pesticides of ready-to-eat foods in American diet); Canned foods (vegetables, industrial chems. and pesticides of ready-to-eat foods in American diet); Alcoholic beverages (whiskey, industrial chems. and pesticides of ready-to-eat foods in American diet); Milk preparations (yogurt, industrial chems. and pesticides of ready-to-eat foods in American diet)

CAS Registry Numbers: 57-50-1 (Sugar) Role: BSU (Biological study, unclassified), BIOL (Biological study) (industrial chems. and pesticides of ready-to-eat foods in American diet); 50-29-3; 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (p,p'-Methoxychlor); 72-54-8; 72-55-9; 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-42-2 (Tris(2-ethylhexyl)phosphate); 78-48-8 (DEF); 78-51-3 (Tri(2-butoxyethyl)phosphate); 82-68-8; 84-74-2; 86-50-0 (Azinphos-methyl); 87-86-5 (Pentachlorophenol); 92-52-4D (Biphenyl); 93-76-5 (2,4,5-T); 94-75-7 (2,4-D); 96-45-7 (Ethylenethiourea); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 101-21-3D (Chlorpropham); 101-42-8 (Fenuron); 115-32-2 (p,p'-Dicofol); 115-86-6 (Triphenylphosphate); 115-96-8 (Tris(b-chloroethyl)phosphate); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4; 126-73-8 (Tributylphosphate); 126-75-0 (Demeton-S); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 298-01-1 ((E)-Mevinphos); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 330-55-2 (Linuron); 333-41-5 (Diazinon); 338-45-4 ((Z)-Mevinphos); 510-15-6 (Chlorobenzilate); 527-20-8 (Pentachloroaniline); 555-37-3 (Neburon); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 929-16-8 (2-Chloroethyl palmitate); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 1241-94-7 (Diphenyl 2-ethylhexyl phosphate); 1563-66-2 (Carbofuran); 1646-88-4 (Aldoxycarb); 1825-19-0 (Pentachlorophenyl methyl sulfide); 1825-21-4 (Pentachlorophenyl methyl ether); 1861-32-1 (DCPA); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2303-17-5 (Tri-allate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2496-91-5 (Demeton-S sulfone); 2497-06-5 (Disulfoton sulfone); 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2683-43-4; 2921-88-2 (Chlorpyrifos); 3060-89-7 (Metobromuron); 3424-82-6; 3481-20-7 (2,3,5,6-Tetrachloroaniline); 3734-48-3 (Chlordene); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5103-73-1 (cis-Nonachlor); 5103-74-2 (trans-Chlordane); 5598-13-0 (Chlorpyrifos methyl); 6923-22-4 (Monocrotophos); 6936-40-9 (2,3,5,6-Tetrachloroanisole); 7704-34-9 (Sulfur); 8001-35-2 (Toxaphene); 10265-92-6 (Methamidophos); 10606-46-9 (o,p'-Dicofol); 12002-48-1 (Trichlorobenzene); 12408-10-5 (Tetrachlorobenzene); 12789-03-6 (Chlordane); 13171-21-6 (Phosphamidon); 15175-04-9 (2-Chloroethyl caprate); 16655-82-6 (3-Hydroxycarbofuran); 16752-77-5 (Methomyl); 20925-85-3 (Pentachlorobenzonitrile); 22248-79-9 (Gardona); 22756-17-8 (Ethion oxygen analog); 23135-22-0 (Oxamyl); 25525-76-2 (2-Chloroethyl linoleate); 26248-87-3 (Tris(chloropropyl)phosphate); 27304-13-8 (Octachlor epoxide); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 31135-63-4; 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan II); 36734-19-7 (Iprodione); 36734-19-7D (Iprodione); 39765-80-5 (trans-Nonachlor); 41198-08-7 (Profenofos); 50471-44-8 (Vinclozolin); 51479-36-8 (2-Chloroethyl myristate); 51630-58-1 (Fenvalerate); 60038-65-5 (Isopropylphenyl phenyl phosphate); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 64919-15-9 (2-Chloroethyl laurate); 68671-90-9; 70439-96-2; 164081-99-6 Role: POL (Pollutant), OCCU (Occurrence) (industrial chems. and pesticides of ready-to-eat foods in American diet) This report lists the pesticide and industrial chems. found in the ready-to-eat foods tested repetitively for 10 yr through the U.S. Food and Drug Administration's Revised Market Basket Study. The study operated from 1982 to 1991. During that time 37 market baskets, each contg. 234 food items that represented about 5000 food types in American diets covering all age groups, including infants and children, were collected. Each food item was individually prepd. for eating; i.e., it was opened, unwrapped, washed, peeled, sliced, formulated by recipe, or cooked. Each item was then composited and anal. screened for about 300 different chems., including chlorophenoxy acids, ethylenethiourea, Me carbamates, organochlorines, organophosphates, organosulfurs, phenylureas, and pyrethroids. Overall, less that 1% of the potential of 2.5 million findings occurred for the 10-yr study period. In total, 138 different chem. residues accounted for 17,050 accumulated findings. Most findings were less than 1 mg/g, which is considered a low-level finding. Each food item averaged about 2 low-level findings per anal. [on SciFinder (R)] 1060-3271 food/ pesticide/ industrial/ chem/ US;/ diet/ pesticide/ industrial/ chem/ US

636. Kanaev, A. I., Grishchenko, L. I., Trondina, G. A., Verkhovski&#301, and Ap ([Diagnosis of Phthalophos

Poisonings of Fish]. *Veterinariia. 1977, oct(10):103-4. [Veterinariia]: Veterinariia*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Acute Disease
MESH HEADINGS: Animals
MESH HEADINGS: Dose-Response Relationship, Drug
MESH HEADINGS: *Fishes
MESH HEADINGS: Insecticides/*poisoning
MESH HEADINGS: Pesticide Residues/poisoning
MESH HEADINGS: Phosmet/*poisoning
MESH HEADINGS: Time Factors
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Diagnostika otravleniĭ ryb ftalaofosom.

637. Kanaev, A. I., Grishchenko, L. I., Trondina, G. A., and Verkhovskii, A. P. (Diagnosis of Phthalophos (Phosmet) Poisoning in Fish. *Veterinariya 10: 103-104 1977*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The toxicity and accumulation of phthalophos in young carp and other fish were studied in aquariums. The LC50 was found to be 4.4-4.8 mg/liter for the different species. There were no deaths among carp kept in water with 1/50 LC50. Depression, disorientation, increased intestinal peristalis, loss of appetite, motor dyscoordination, tremor and spasms of the skeletal muscles, adynamia, paralysis, and depression of respiration were the symptoms of acute poisoning. Chronic poisoning with 1/5-1/10 of LC50 caused loss of appetite, depression, loss of equilibrium, and spasms of the skeletal muscles. Acute and chronic poisoning caused reduction of the hemoglobin level by 17%, of the erythrocyte count by 55.3%, of the hematocrit value by 13.1%, leukopenia, and vaculization of the cytoplasm of the erythrocytes. Acute and chronic poisoning caused inhibition of the acetylcholinesterase activity by 87.4-89% in the blood and by 41-85.6% in the brain. In chronic poisoning, considerable enzyme inhibition was seen even in the absence of clinical symptoms of poisoning. The residue levels after acute poisoning were 16.6 mg/kg in the kidneys, 14.6 mg/kg in the blood, 10.3 mg/kg in the intestinal wall, and 8 mg/kg in the muscles. No residues were found in the fish 8 days after poisoning, but phthalophos peristed for 4 months in deep-frozen meat.
LANGUAGE: rus

638. Kanaev, A. I., Grishchenko, L. I., Trondina, G. A., and Verkhovskii, A. P. (Diagnosis of Poisoning of Fish by Phosmet. *Veterinariya (moscow) (10): 103-104 1977*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. Clinical manifestations and diagnosis of poisoning of several fresh-water fishes by organo phosphorous pesticide phosmet were studied. The LD50 for Cyprinus, Hypophthalmichthys, and Leucaspius was 4.8, 4.4 and 4.7 mg/l, respectively. The larvae of Cyrinus were 1.5 times more sensitive to the exposure than were mature carps. Chronic exposure to pesticide at 0.2-0.033 LD50 resulted in the death of 50% and 8.3% of the carp. Characteristic features of both acute and chronic poisoning were marked inhibition of acetyl cholinesterase activity (87-89%), disturbances of the central and peripheral nervous system, adynamia, and convulsions. The content of the phosmet in organs and tissues were determined by means of TLC. In acute poisoning maximum concentration of the pesticide was detected in the kidneys (16.6 mg/kg), blood 14.6 mg/kg, intestinal wall (10.3 mg/kg), liver (10 mg/kg), gills (10.8 mg/kg and muscles (8.0 mg/kg). RN - 732-11-6
LANGUAGE: rus

639. Kanan, Sofian M., Yousef, Imad A. Abu, and Abdo, Naser M (2007). The photodecomposition of phosmet over UV irradiated silver nanoclusters doped in mordenite zeolite. *Applied Catalysis, B: Environmental* 74: 130-136.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2007:495514
Section Code: 74-1
Section Title: Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes
Document Type: Journal
Language: written in English.
Index Terms: Clusters; Nanoparticles (nanoclusters; photodecompn. of phosmet over UV irradiated silver nanocluster photocatalysts doped in mordenite zeolite); Photolysis (photocatalytic decompn. of phosmet over UV irradiated silver nanoclusters doped in mordenite zeolite); Luminescence; Photolysis catalysts; Photolysis kinetics (photodecompn. of phosmet over UV irradiated silver nanocluster photocatalysts doped in mordenite zeolite); Mordenite-type zeolites Role: CAT (Catalyst use), PEP (Physical, engineering or chemical process), PRP (Properties), PROC (Process), USES (Uses) (silver-exchanged; photodecompn. of phosmet over UV irradiated silver nanocluster photocatalysts doped in mordenite zeolite)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: PEP (Physical, engineering or chemical process), RCT (Reactant), PROC (Process), RACT (Reactant or reagent) (Phosmet; photocatalytic decompn. of phosmet over UV irradiated silver nanoclusters doped in mordenite zeolite); 7440-22-4D (Silver) Role: CAT (Catalyst use), PEP (Physical, engineering or chemical process), PRP (Properties), PROC (Process), USES (Uses) (photodecompn. of phosmet over UV irradiated silver nanocluster photocatalysts doped in mordenite zeolite); 550-44-7P (N-Methylphthalimide); 756-80-9P; 13598-51-1P (Phosphorothioic acid); 20044-28-4P Role: PEP (Physical, engineering or chemical process), SPN (Synthetic preparation), PREP (Preparation), PROC (Process) (photodecompn. of phosmet over UV irradiated silver nanocluster photocatalysts doped in mordenite zeolite)
Citations: 1) Bertilsson, L; J Phys Chem B 1997, 101, 6021
Citations: 2) Kanan, S; J Phys Chem B 2002, 106, 9576
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Citations: 17) Ohshiro, S; C R Chimie 2006, 9, 846
Citations: 18) Chen, H; J Catal 2004, 228, 75
Citations: 19) Chintawar, P; Appl Catal B Environ 1997, 13, 81
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Citations: 21) Matsuoka, M; J Photochem Photobiol A Chem 2003, 160, 43
Citations: 22) Zhanpeisov, N; J Mol Catal A Chem 2003, 201, 237
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Citations: 24) Hensen, E; J Catal 2005, 233, 136
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Citations: 26) Kanan, S; Curr Opin Solid State Mater Sci 2004, 7, 443
Citations: 27) Kanan, S; Res Chem Int 2006, 32, 871
Citations: 28) Gellens, L; J Phys Chem 1981, 85, 2783
Citations: 29) Omary, M; J Am Chem Soc 1998, 120, 7696 Ag(I) nanoclusters doped in mordenite

zeolite were prepd. and spectroscopically analyzed. Both exptl. and theor. results show the presence of silver nanoclusters with various sizes and environments in the zeolite hosts. The study indicates that the low energy emission mode (at 520 nm) was gradually activated and the high energy mode (at 415 nm) was deactivated upon increasing the excitation wavelength from 250 to 300 nm. The catalyzed system increases the photodecompn. of phosmet in comparison with the uncatalyzed expt. upon irradn. with different UV lights. Moreover, the largest catalytic activity was obsd. upon the irradn. of the catalyzed soln. with 302 nm where an increase in the decompn. rate by 40-fold was obsd. The photodecompn. products are similar for all systems but variations in the relative amt. of these products were obsd. at different conditions. Both catalyzed systems indicate the formation of phosphorothionic acid as the major product. [on SciFinder (R)] 0926-3373 photodecompn/ phosmet/ UV/ silver/ nanocluster/ dopant/ mordenite/ zeolite/ photocatalyst

640. Kang, S. and Delwiche, S. R. (2000). Moisture Diffusion Coefficients of Single Wheat Kernels With Assumed Simplified Geometries: Analytical Approach. *Transactions of the American Society of Agricultural Engineers, 43 (6) pp. 1653-1659, 2000*.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ISSN: 0001-2351
Descriptors: Wheat
Descriptors: Moisture
Descriptors: Diffusion
Descriptors: Tempering
Abstract: Using a combination of soaking data and an analytical solution of the diffusion equation, moisture diffusion coefficients of single wheat kernels were determined for nine commercial varieties representing Six market classes of U.S. wheat. Two geometric conditions, the whole kernel as a prolate spheroid, and the endosperm (also modeled as prolate spheroidal) and pericarp as separate components, were examined. Values from the analytical solution for a sphere were adjusted by a geometrical correction factor to more closely represent the response of a prolate spheroid. The ranges in diffusion coefficients were 0.39 x 10⁻¹⁰ to 1.04 x 10⁻¹⁰ m²/s for endosperm and 0.04 x 10⁻¹⁰ to 0.28 x 10⁻¹⁰ m²/s for pericarp. Compared to the pericarp, moisture diffused more rapidly in the endosperm. Soft wheats tended to have a more permeable pericarp layer than hard wheats, which resulted in a greater overall rate of diffusion, despite the endosperm of these two groups being nearly equivalent in diffusion coefficient value.
22 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.7.3.5 DEVELOPMENT: Reproductive Development (Spermatophytes): Ripening and post-harvest physiology
Subfile: Plant Science

641. Karasali, H., Hourdakis, A., Anagnostopoulos, H., and Doulia, D (2002). Pesticide residues in thermal mineral water in Greece. *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes* B37: 465-474.
Chem Codes : Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:755954
Chemical Abstracts Number: CAN 138:28691
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5, 80

Document Type: Journal
Language: written in English.
Index Terms: Capillary gas chromatography; Gas chromatography; HPLC (in pesticide detn. in water and residues in thermal mineral water in Greece); Pesticides (pesticide detn. in water and residues in thermal mineral water in Greece); Extraction (solid-phase; in pesticide detn. in water and residues in thermal mineral water in Greece); Water pollution (thermal mineral; pesticide detn. in water and residues in thermal mineral water in Greece)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (pesticide detn. in water and residues in thermal mineral water in Greece); 50-29-3 (Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-); 53-19-0 (Benzene, 1-chloro-2-[2,2-dichloro-1-(4-chlorophenyl)ethyl]-); 56-38-2 (Parathion ethyl); 58-89-9 (Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1a,2a,3b,4a,5a,6b)-); 60-51-5 (Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester); 60-57-1 (2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aa,2b,2aa,3b,6b,6aa,7b,7aa)-); 62-73-7 (Dichlorvos); 72-20-8 (2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aa,2b,2ab,3a,6a,6ab,7b,7aa)-); 72-54-8 (Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-); 72-55-9 (Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro-); 76-44-8 (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-); 86-50-0 (Phosphorodithioic acid, O,O-dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] ester); 121-75-5 (Butanedioic acid, [(dimethoxyphosphinothioyl)thio]-, diethyl ester); 298-00-0 (Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester); 298-02-2 (Phorate); 309-00-2 (1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1a,4a,4ab,5a,8a,8ab)-); 319-84-6 (Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1a,2a,3b,4a,5b,6b)-); 333-41-5 (Phosphorothioic acid, O,O-diethyl O-[6-methyl-2-(1-methylethyl)-4-pyrimidinyl] ester); 732-11-6 (Phosmet); 959-98-8 (6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3a,5ab,6a,9a,9ab)-); 1024-57-3 (2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aa,1bb,2a,5a,5ab,6b,6aa)-); 1031-07-8 (6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide); 1918-16-7 (Acetamide, 2-chloro-N-(1-methylethyl)-N-phenyl-); 2310-17-0 (Phosphorodithioic acid, S-[(6-chloro-2-oxo-3(2H)-benzoxazolyl)methyl] O,O-diethyl ester); 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2642-71-9 (Phosphorodithioic acid, O,O-diethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] ester); 2921-88-2 (Phosphorothioic acid, O,O-diethyl O-(3,5,6-trichloro-2-pyridinyl) ester); 5103-71-9 (4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-, (1a,2a,3aa,4b,7b,7aa)-); 5566-34-7 (4,7-Methano-1H-indene, 2,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-); 5598-13-0 (Phosphorothioic acid, O,O-dimethyl O-(3,5,6-trichloro-2-pyridinyl) ester); 29232-93-7 (Phosphorothioic acid, O-[2-(diethylamino)-6-methyl-4-pyrimidinyl] O,O-dimethyl ester); 33213-65-9 (6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3a,5aa,6b,9b,9aa)-); 51630-58-1 (Benzeneacetic acid, 4-chloro-a-(1-methylethyl)-, cyano(3-phenoxyphenyl)methyl ester); 52315-07-8 (Cyclopropanecarboxylic acid, 3-(2,2-dichloroethenyl)-2,2-dimethyl-, cyano(3-phenoxyphenyl)methyl ester); 91465-08-6 (l-Cyhalothrin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticide detn. in water and residues in thermal mineral water in Greece)
Citations: 1) Harner, T; Environ Pollut 1999, 106, 323
Citations: 2) Bernal, J; J Chromatogr A 1996, 754, 245
Citations: 3) Das, A; Bull Environ Contam Toxicol 1998, 61, 709
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Citations: 5) Barcelo, D; Anal Chim Acta 1997, 338, 3
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Citations: 7) Miliadis, G; Bull Environ Contam Toxicol 1998, 61, 255
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Citations: 10) Junker-Buchheit, A; J Chromatogr A 1996, 737, 67
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Citations: 17) Anon; OJ L229 1980, 30.8.80, 11
Citations: 18) Anon; OJ L194 1975, 25.7.75, 26
Citations: 19) Fielding, M; Water Pollution Research Report 1992, 27, 1
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Citations: 21) Patsias, J; J Chromatogr A 1996, 740, 83
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Citations: 23) Kilikidis, S; Bull Environ Contam Toxicol 1992, 49, 375
Citations: 24) Gallo, M; The Handbook of Pesticide Toxicology 1991, 2, 1055 Eight different hot springs (SPA) in Greece were monitored over a one-year survey for priority pesticide residues. A specific and effective procedure including solid phase extn. in combination with HPLC and GC anal. methods were applied. Samples that were sensitive to nitrogen-phosphorus (NPD) and/or electron capture (ECD) detectors were analyzed by capillary gas chromatog. From the twenty-six water samples, pesticide residues were detected in fourteen of them (54%) but no one exceeding the European Union Maximum Acceptable Concn. (MAC). Lindane (g-BHC) was the most frequently detected pesticide. It was found in nine samples (35%) in concns. from <0.005 to 0.01 mg/L. Other pesticides detected were phorate (in five samples), propachlor (in two samples) and chlorpyrifos Et (in three samples), but in concns. far below the permissible levels. [on SciFinder (R)] 0360-1234 pesticide/ residue/ detn/ thermal/ mineral/ water/ Greece

642. Katagi, Toshiyuki, Miyakado, Masakazu, Takayama, Chiyozo, and Tanaka, Shizuya (1995). Theoretical estimation of octanol-water partition coefficient for organophosphorus pesticides. *ACS Symposium Series* 606: 48-61.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:963231
Chemical Abstracts Number: CAN 124:2968
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Partition (octanol-water; estn. of octanol-water partition coeff. for organophosphorus pesticides); Pesticides (phosphorus-contg.; estn. of octanol-water partition coeff. for organophosphorus pesticides)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos-methyl); 97-17-6 (Dichlofenthion); 115-90-2 (Fensulfothion); 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 311-45-5; 327-98-0 (Trichloronate); 333-41-5 (Diazinon); 500-28-7 (Chlorthion); 598-02-7; 732-11-6 (Phosmet); 756-79-6; 813-78-5 (O,O-Dimethyl phosphate); 944-21-8; 944-22-9 (Fonofos); 950-35-6; 950-37-8 (Methidathion); 961-22-8; 962-58-3; 1071-83-6 (Glyphosate); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2255-15-4; 2255-17-6; 2463-84-5 (Dicapthon); 2465-65-8 (O,O-Diethylphosphorothioate); 2540-82-1 (Formothion); 2591-66-4 (ET 15); 2597-03-7 (Phenthoate); 2600-69-3; 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 5598-13-0; 7292-16-2 (Propaphos); 7700-17-6 (Crotoxyphos); 10265-92-6 (Methamidophos); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 15845-66-6 (Fosetyl); 16391-07-4; 18181-70-9 (Iodofenphos); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9 (Stirofos); 24017-47-8 (Triazophos); 25006-32-0; 25311-71-1 (Isofenphos); 28167-49-9; 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 35400-43-2 (Sulprofos); 36335-67-8 (Butamifos); 41198-08-7 (Profenofos); 56362-05-1; 57018-04-9 (Tolclofos-methyl); 61090-94-6; 62266-03-9; 97483-08-4 Role: PRP (Properties) (estn. of octanol-water partition coeff. for organophosphorus pesticides) A wide range of logP values for 67 organophosphorus pesticides possessing the various

chem. structures were theor. estd. by using parameters derived from their mol. geometries and electronic properties calcd. with the MNDO-PM3 semiempirical SCF method. The multiple regression anal. showed that the logP values were satisfactorily expressed by van der Waals vol., total no. of hydrogen bonding sites, and the LUMO energy. The equation correlated very well the logP values measured. Although the accuracy of the prediction is slightly lower than that of the CLOGP procedure, the method can est. the logP values for the pesticides which could not be calcd. by CLOGP because of the lack of the related fragment values. [on SciFinder (R)] 0097-6156 phosphate/ pesticide/ octanol/ water/ partition/ coeff

643. Katritzky, Alan R., Tatham, Douglas B., and Maran, Uko (2001). Theoretical Descriptors for the Correlation of Aquatic Toxicity of Environmental Pollutants by Quantitative Structure-Toxicity Relationships. *Journal of Chemical Information and Computer Sciences* 41: 1162-1176.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:558355
Chemical Abstracts Number: CAN 135:284237
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Toxicity (aquatic; theor. descriptors for correlation of aquatic toxicity of environmental pollutants by quant. structure-toxicity relationships); Guppy; Molecular structure; Toxicants (theor. descriptors for correlation of aquatic toxicity of environmental pollutants by quant. structure-toxicity relationships); Structure-activity relationship (toxic; theor. descriptors for correlation of aquatic toxicity of environmental pollutants by quant. structure-toxicity relationships)
CAS Registry Numbers: 50-00-0 (Methanal); 55-38-9 (Fenthion); 56-23-5 (Tetrachloromethane); 58-89-9 (Lindane); 58-90-2 (2,3,4,6-Tetrachlorophenol); 59-50-7 (4-Chloro-3-methylphenol); 60-29-7 (Diethyl ether); 60-57-1 (Dieldrin); 62-53-3 (Aniline); 63-68-3 (L-Methionine); 64-17-5 (Ethanol); 66-25-1 (Hexanal); 67-56-1 (Methanol); 67-63-0 (2-Propanol); 67-64-1 (Acetone); 67-66-3 (Chloroform); 67-72-1 (Hexachloroethane); 71-36-3 (1-Butanol); 71-43-2 (Benzene); 71-55-6 (1,1,1-Trichloroethane); 75-04-7 (Ethylamine); 75-07-0 (Ethanal); 75-09-2 (Dichloromethane); 75-34-3 (1,1-Dichloroethane); 75-56-9 (Propylene oxide); 75-65-0 (tert-Butanol); 75-97-8 (3,3-Dimethyl-2-butanone); 76-01-7 (Pentachloroethane); 78-83-1 (Isobutanol); 78-84-2 (2-Methylpropanal); 78-87-5 (1,2-Dichloropropane); 78-88-6 (2,3-Dichloropropene); 78-93-3 (2-Butanone); 78-95-5 (Chloroacetone); 78-96-6 (1-Amino-2-propanol); 79-00-5 (1,1,2-Trichloroethane); 79-01-6 (Trichloroethene); 79-06-1 (Acrylamide); 79-34-5 (1,1,2,2-Tetrachloroethane); 80-46-6 (4-tert-Pentylphenol); 83-41-0 (2,3-Dimethylnitrobenzene); 83-42-1 (2-Chloro-6-nitrotoluene); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 87-61-6 (1,2,3-Trichlorobenzene); 87-65-0 (2,6-Dichlorophenol); 87-68-3 (Hexachlorobutadiene); 87-86-5 (Pentachlorophenol); 88-04-0 (4-Chloro-3,5-dimethylphenol); 88-06-2 (2,4,6-Trichlorophenol); 88-72-2 (2-Nitrotoluene); 88-73-3 (2-Chloronitrobenzene); 88-74-4 (2-Nitroaniline); 88-85-7 (2-sec-Butyl-4,6-dinitrophenol); 89-59-8 (4-Chloro-2-nitrotoluene); 89-61-2 (2,5-Dichloronitrobenzene); 90-15-3 (1-Naphthalenol); 90-43-7 (2-Phenylphenol); 91-22-5 (Quinoline); 94-99-5 (2,4,a-Trichlorotoluene); 95-47-6; 95-48-7 (2-Methylphenol); 95-50-1 (1,2-Dichlorobenzene); 95-51-2 (2-Chloroaniline); 95-53-4 (2-Methylaniline); 95-57-8 (2-Chlorophenol); 95-65-8 (3,4-Dimethylphenol); 95-73-8 (2,4-Dichlorotoluene); 95-75-0 (3,4-Dichlorotoluene); 95-76-1 (3,4-Dichloroaniline); 95-82-9 (2,5-Dichloroaniline); 95-94-3 (1,2,4,5-Tetrachlorobenzene); 95-95-4 (2,4,5-Trichlorophenol); 96-09-3 (Styrene oxide); 96-18-4 (1,2,3-Trichloropropane); 96-22-0 (3-Pentanone); 97-00-7 (1-Chloro-2,4-dinitrobenzene); 97-77-8 (Disulfiram); 97-96-1 (2-Ethylbutanal); 98-01-1 (2-Furaldehyde); 98-54-4 (4-tert-Butylphenol); 98-86-2 (Acetophenone); 98-95-3 (Nitrobenzene); 99-08-1 (3-Nitrotoluene); 99-09-2 (3-Nitroaniline); 99-51-4; 99-65-0 (1,3-Dinitrobenzene); 99-99-0 (4-Nitrotoluene); 100-00-5 (4-Chloronitrobenzene); 100-01-6 (4-Nitroaniline); 100-02-7 (4-Nitrophenol); 100-44-7 (Benzyl

chloride); 100-46-9 (Benzylamine); 100-50-5 (3-Cyclohexene-1-carboxaldehyde); 100-52-7 (Benzaldehyde); 101-84-8 (Diphenyl ether); 104-13-2 (4-Butylaniline); 104-40-5 (4-Nonylphenol); 105-67-9 (2,4-Dimethylphenol); 106-40-1 (4-Bromoaniline); 106-42-3; 106-43-4 (4-Chlorotoluene); 106-44-5 (4-Methylphenol); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-48-9 (4-Chlorophenol); 106-49-0 (4-Methylaniline); 106-88-7 (1,2-Epoxybutane); 106-89-8 (Epichlorohydrin); 107-05-1 (Allyl chloride); 107-06-2 (1,2-Dichloroethane); 107-10-8 (Propylamine); 107-18-6 (Allyl alcohol); 107-21-1 (1,2-Ethanediol); 107-41-5 (2-Methyl-2,4-pentanediol); 107-45-9 (tert-Octylamine); 108-10-1 (4-Methyl-2-pentanone); 108-20-3 (Diisopropyl ether); 108-38-3; 108-39-4 (3-Methylphenol); 108-41-8 (3-Chlorotoluene); 108-42-9 (3-Chloroaniline); 108-43-0 (3-Chlorophenol); 108-44-1 (3-Methylaniline); 108-46-3 (1,3-Dihydroxybenzene); 108-70-3 (1,3,5-Trichlorobenzene); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 108-93-0 (Cyclohexanol); 108-94-1 (Cyclohexanone); 108-95-2 (Phenol); 109-59-1 (2-Isopropoxyethanol); 109-69-3 (1-Chlorobutane); 109-73-9 (Butylamine); 109-85-3 (2-Methoxyethylamine); 109-86-4 (2-Methoxyethanol); 109-99-9 (Tetrahydrofuran); 110-00-9 (Furan); 110-58-7 (Amylamine); 110-62-3 (Pentanal); 110-80-5 (2-Ethoxyethanol); 110-93-0 (6-Methyl-5-hepten-2-one); 111-13-7 (2-Octanone); 111-26-2 (Hexylamine); 111-27-3 (1-Hexanol); 111-44-4 (2,2'-Dichlorodiethyl ether); 111-46-6 (Diethyleneglycol); 111-68-2 (Heptylamine); 111-71-7 (Heptanal); 111-76-2 (2-Butoxyethanol); 111-86-4 (Octylamine); 111-87-5 (1-Octanol); 111-90-0 (2-(2-Ethoxyethoxy)ethanol); 112-20-9 (Nonylamine); 112-27-6 (Triethyleneglycol); 112-30-1 (1-Decanol); 112-31-2 (Decanal); 112-34-5 (Butyldigol); 112-42-5 (1-Undecanol); 112-53-8 (1-Dodecanol); 112-56-1 (Lethane); 115-20-8 (2,2,2-Trichloroethanol); 118-79-6 (2,4,6-Tribromophenol); 119-34-6 (4-Amino-2-nitrophenol); 119-61-9 (Benzophenone); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-69-7 (N,N-Dimethylaniline); 121-73-3 (3-Chloronitrobenzene); 121-87-9 (2-Chloro-4-nitroaniline); 122-14-5 (Fenitrothion); 122-99-6 (2-Phenoxyethanol); 123-07-9 (4-Ethylphenol); 123-38-6 (Propanal); 123-72-8 (Butanal); 124-13-0 (Octanal); 124-22-1 (Dodecylamine); 127-18-4 (Tetrachloroethene); 136-77-6 (4-Hexylresorcinol); 140-88-5 (Ethyl acrylate); 141-43-5 (2-Aminoethanol); 142-28-9 (1,3-Dichloropropane); 142-96-1 (Dibutyl ether); 143-08-8 (1-Nonanol); 148-24-3 (8-Hydroxyquinoline); 150-19-6 (3-Methoxyphenol); 150-76-5 (4-Methoxyphenol); 150-78-7 (1,4-Dimethoxybenzene); 298-00-0 (Methylparathion); 299-84-3 (Ronnel); 329-71-5 (2,5-Dinitrophenol); 393-39-5 (a,a,a,4-Tetrafluoro-2-methylaniline); 500-28-7 (Chlorothion); 502-56-7 (5-Nonanone); 541-73-1 (1,3-Dichlorobenzene); 542-75-6 (1,3-Dichloropropene); 552-41-0; 554-00-7 (2,4-Dichloroaniline); 554-84-7 (3-Nitrophenol); 556-52-5 (Glycidol); 563-52-0 (3-Chloro-1-butene); 563-80-4 (3-Methyl-2-butanone); 576-26-1 (2,6-Dimethylphenol); 578-54-1 (2-Ethylaniline); 583-78-8 (2,5-Dichlorophenol); 584-02-1 (3-Pentanol); 587-02-0 (3-Ethylaniline); 589-16-2 (4-Ethylaniline); 590-86-3 (3-Methylbutanal); 591-35-5 (3,5-Dichlorophenol); 591-97-9 (1-Chloro-2-butene); 598-74-3 (1,2-Dimethylpropylamine); 608-93-5 (Pentachlorobenzene); 609-19-8 (3,4,5-Trichlorophenol); 611-06-3 (2,4-Dichloronitrobenzene); 616-86-4 (4-Ethoxy-2-nitroaniline); 618-62-2 (3,5-Dichloronitrobenzene); 626-43-7 (3,5-Dichloroaniline); 634-66-2 (1,2,3,4-Tetrachlorobenzene); 634-67-3 (2,3,4-Trichloroaniline); 634-83-3 (2,3,4,5-Tetrachloroaniline); 634-90-2 (1,2,3,5-Tetrachlorobenzene); 636-30-6 (2,4,5-Trichloroaniline); 640-19-7 (Fluoroacetamide); 645-56-7 (4-Propylphenol); 693-16-3 (1-Methylheptylamine); 693-54-9 (2-Decanone); 693-65-2 (Dipentyl ether); 732-11-6 (Phosmet); 764-41-0 (1,4-Dichloro-2-butene); 768-94-5 (1-Adamantanamine); 771-60-8 (Pentafluoroaniline); 831-82-3 (4-Phenoxyphenol); 933-75-5 (2,3,6-Trichlorophenol); 933-78-8 (2,3,5-Trichlorophenol); 935-95-5 (2,3,5,6-Tetrachlorophenol); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1198-55-6; 1436-34-6 (1,2-Epoxyhexane); 1464-53-5 (1,3-Butadienediepoxide); 1484-26-0 (3-Benzyloxyaniline); 1634-04-4 (tert-Butylmethyl ether); 1638-22-8 (4-n-Butylphenol); 1689-82-3 (4-Phenylazophenol); 1745-81-9 (2-Allylphenol); 2016-57-1 (Decylamine); 2043-61-0 (Cyclohexanecarboxaldehyde); 2104-96-3 (Bromophos); 2234-16-4; 2357-47-3 (a,a,a,4-Tetrafluoro-3-methylaniline); 2404-44-6 (1,2-Epoxydecane); 2409-55-4 (2-tert-Butyl-4-methylphenol); 2416-94-6 (2,3,6-Trimethylphenol); 2426-07-5 (1,2,7,8-Diepoxyoctane); 2460-49-3 (4,5-Dichloro-2-methoxyphenol); 2463-84-5 (Dicapthon); 2539-26-6 (3,4,5-Trichloro-2,6-dimethoxyphenol); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2719-42-8 (a,a-Dichloro-m-xylene); 2855-19-8 (1,2-Epoxydodecane); 2869-34-3 (Tridecylamine); 2984-50-1 (1,2-Epoxyoctane); 3132-64-7 (Epibromohydrin); 3209-22-1 (2,3-

Dichloronitrobenzene); 3481-20-7 (2,3,5,6-Tetrachloroaniline); 4170-30-3 (2-Butenal); 4412-91-3 (3-Furanmethanol); 4901-51-3 (2,3,4,5-Tetrachlorophenol); 5673-07-4 (2,6-Dimethoxytoluene); 5813-64-9 (2,2-Dimethylpropylamine); 6639-30-1 (2,4,5-Trichlorotoluene); 6640-27-3 (2-Chloro-4-methylphenol); 7307-55-3 (Undecylamine); 13909-73-4; 13952-84-6 (sec-Butylamine); 14088-71-2 (Proclonol); 14938-35-3 (4-n-Pentylphenol); 15673-00-4 (3,3-Dimethylbutylamine); 16245-79-7 (4-Octylaniline); 18181-70-9 (Iodofenphos); 24544-04-5 (2,6-Diisopropylaniline); 37529-30-9 (4-Decylaniline); 38260-54-7 (Etrimfos); 39905-57-2 (4-Hexyloxyaniline); 52918-63-5 (Decamethrin); 57057-83-7 (3,4,5-Trichloro-2-methoxyphenol); 88963-39-7 (2,3,6-Trichloroaniline); 114012-04-3 (Methylisocyanothion); 174755-58-9 Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (theor. descriptors for correlation of aquatic toxicity of environmental pollutants by quant. structure-toxicity relationships)

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Citations: 63) Hatch, F; Mut Res 1997, 376, 87
Citations: 64) Roy, A; Mathematical Modelling in Science and Technology 1983, 745
Citations: 65) Basak, S; J Math Chem 1990, 4, 185
Citations: 66) Zefirov, N; Dokl Akad Nauk SSSR 1987, 296, 883 Quant. structure-toxicity relationships were developed for the prediction of aq. toxicities for Poecilia reticulata (guppy) using the CODESSA treatment. A two-parameter correlation was found for class 1 toxins with R2 = 0.96, and a five-parameter correlation was found for class 2 toxins with R2 = 0.92. A five-parameter correlation for class 3 toxins had R2 = 0.85. The correlations for class 4 toxins were less satisfactory. All the descriptors utilized are calcd. solely from the structures of the mols., which makes it possible to predict unavailable or unknown toxins. [on SciFinder (R)] 0095-2338
QSAR/ toxicant/ Poecilia/ toxicity/ mol/ structure

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Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

32 tritium analyses were performed on 13 different water sources within Soreq Cave, Israel; eight of the water sources were analyzed once each, and the other five between 3 and 6 times each, on samples collected between 1990 and 2000. The results were compared with similar analyses of a 1981-82 collection and with the tritium concentrations of the annual rainfall from 1952 to 1998. The tritium in several of the cave waters was so high (up to 110 TU) that they must have originated mainly in the peak tritium rain year 1964. Most of the other cave waters had tritium concentrations, which though somewhat lower, must have originated largely from rain that fell between 1962 and 1966. The consequences of these tritium observations are that: (1) it generally takes 26-36 years for rainwater to percolate from ground surface to Soreq Cave ceiling; and (2) the type of flow undergone during this percolation is in several cases very similar to `piston flow', hence the annual packets of rainfall reach the cave without undergoing much mixing with either earlier or later rains. In about one-third of the cases, tritium was too low to determine the percolation time. Finally, the time variations of the tritium concentrations in specific cave water sources seem to indicate that the conduits which bring water to these sources may have undergone physical changes which affect the amount of time it took for rain to reach the cave ceiling.
Tritium/ Cave water/ Vadose/ Transit time/ Piston flow
http://www.sciencedirect.com/science/article/B6V6C-47RJMFM-F/2/c890d8b0be8d3b91eac599dbb1ad078a

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Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Sedimentation coefficients s20, w of five preparations of sodium deoxypentosenucleate (DNA) purified from hearing sperm and one from calf thymus were measured by a Spinco ultracentrifuge at concentrations below 0.5%. Limiting viscosity numbers [[eta]] of these preparations were determined using capillary viscometers of relatively low velocity gradient. Marked variation of s20, w and viscosity from preparation to prepapation was observed. Sedimentation coefficients at zero concentration, s0 (in Svedbergs), were found to be 8.0, 8.4, 8.6, 10.0 and 19 for herring sperm DNA in sodium phopshate buffer of ionic strength 0.2 at pH 7.7, and 23 for calf thymus preparation in 0.2 M sodium chloride (s0 values of herring DNA preparations are probably about 10% lower than true ones because of the secondary charge effect). Among the herring DNA samples, four were obtained from soft roes stored frozen for not less than several weeks, and one from fresh material. The calf thymus preparation was obtained from very fresh material. The latter two preparations, which will be in the least degraded state, possess the highest s0 values, which exceed all values hitherto reported for DNA (12-15S) except those of . Plot of log s0 [[eta]] gives a straight line with a slope of 0/38. This definitely higher than the slope expected for unhydrated, rigid, prolate ellipsoids of revolution with constant minor axis, and therefore such a model is inadequate for DNA. If, instead, a coil model is assumed, it should be fairly stiff judging from the value of the exponent of the modified Staudinger rule, estimated to be 0.9 from the slope of log s0 vs. log [[eta]] plot. The samples with lower so and [[eta]] are probably considerably heterogeneous with respect to molecular weight, judging from the sedimentation patterns. Rapidly sedimenting "gel component" or "insoluble fraction" was not detected in any case. When 1/s20, w is plotted against concentration, the resulting curve is concave toward the concentration axis. The ratio of Ks, a constant characterizing the slope of this curve at infinite dilution, to [[eta]] was found to be fairly constant with these preparations, averaging about 0.8.
http://www.sciencedirect.com/science/article/B73G9-47G3NHD-13M/2/ca99055897d2bbcfc923e4cae384221e

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1979:591459
Chemical Abstracts Number: CAN 91:191459
Section Code: 17-1
Section Title: Foods
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Chromatography (of pesticides contg. phosphorous); Food analysis (pesticides contg. phosphorous detn. in); Fungicides and Fungistats; Insecticides (phosphorus-contg., gas chromatog. of)
CAS Registry Numbers: 55-38-9; 56-38-2; 60-51-5; 62-73-7; 97-17-6; 119-12-0; 121-75-5; 122-14-5; 298-00-0; 298-04-4; 333-41-5; 470-90-6; 563-12-2; 640-15-3; 732-11-6; 950-37-8; 2104-64-5; 2310-17-0; 2540-82-1; 2595-54-2; 2597-03-7; 2636-26-2; 2921-88-2; 3792-59-4; 3811-49-2; 5598-13-0; 5827-05-4; 7292-16-2; 10311-84-9; 13067-93-1; 13265-60-6; 17109-49-8; 18854-01-8; 21609-90-5; 22248-79-9; 26087-47-8; 27949-52-6; 36614-38-7 Role: ANT (Analyte), PEP (Physical, engineering or chemical process), ANST (Analytical study), PROC (Process) (gas chromatog. of) The conditions for analyzing of multicomponent residues of P-contg. fungicides and insecticides were established by using gas chromatog. with a flame photometric detector. Gas chromatog. with temp.-programming (140-240 Deg) on a column of 4% OV-101 provided

information on the pesticides in the sample, and subsequent isothermal gas chromatog. on columns of 4% OV-101 (160-220 Deg) and 10% QF-1 (160-240 Deg) could det. 38 individual fungicides and insecticides. [on SciFinder (R)] 0015-6426 fungicide/ phosphorus/ detn/ food;/ insecticide/ phosphorus/ detn/ food;/ phosphorus/ pesticide/ gas/ chromatog

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Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 1975:34682
Chemical Abstracts Number: CAN 82:34682
Section Code: 59-3
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (persistance of, on skin of hands); Skin (pesticide persistance on, of hands)
CAS Registry Numbers: 57-74-9; 60-57-1; 72-43-5; 72-54-8; 86-50-0; 115-29-7; 115-32-2; 121-75-5; 133-06-2; 732-11-6; 786-19-6; 1861-32-1 Role: OCCU (Occurrence) (persistance of, on skin of hands) Pesticide persistence on the skin of the hands of users was detd. by washing the user's hands with 30 ml C6H14, concg. the washings to 1 ml, and analyzing by flame photomery and chromatog. Chlordane and dieldrin persisted on the hands of 1 operator for >2 yr after use of these compds. had ceased. Similarly malathion, captan, and methoxychlor persisted 7 days. Endosulfan, DDD, Kelthane, Dacthal, Trithion, Imidan and Guthion may have persisted for 1 to 112 days following exposure. [on SciFinder (R)] 0003-9896 safety/ pesticide/ persistance/ hand

648. Keith, Lawrence H. and Alford, Ann L (1969). Supplementary interpretations of the N.M.R. spectra of phosphorus pesticides. *Analytica Chimica Acta* 44: 447-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1969:76682
Chemical Abstracts Number: CAN 70:76682
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Nuclear magnetic resonance (of phosphorus-contg. pesticides); Pesticides (phosphorus-contg., N.M.R. spectra of)
CAS Registry Numbers: 121-75-5; 141-66-2; 298-01-1; 298-02-2; 298-04-4; 338-45-4; 732-11-6; 786-19-6; 867-27-6; 7700-17-6; 7786-34-7 Role: PRP (Properties) (nuclear magnetic resonance spectra of) See Babad, et al., CA 68:67993y; Keith, et al., CA 69:75849s. The N.M.R. spectra of many P pesticides were measured with a high resolution 100 megahertz spectrometer. A 2-3% Me4Si soln. was the internal standard; CDCl3 and CCl4 were the solvents. Homonuclear decoupling was achieved with N.M.R. Signals related to the various structural aspects of the mols. are reported for many pesticides, including Di-syston, Thimet, malathion, and Phosdrin. [on SciFinder (R)] 0003-2670 phosphorus/ pesticides/ NMR;/ NMR/ P/ pesticides;/ pesticides/ P/ NMR;/ structure/ pesticides/ NMR

649. Keith, Lawrence H., Garrison, Arthur W., and Alford, Ann L (1968). High resolution N.M.R. spectra of pesticides. I. Organophosphorus pesticides. *Journal - Association of Official Analytical Chemists*

51: 1063-94.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1968:475849
Chemical Abstracts Number: CAN 69:75849
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Nuclear magnetic resonance (of pesticides); Pesticides (phosphorus-contg., N.M.R. of)
Index Terms(2): Phosphoric acid Role: PRP (Properties) (nuclear magnetic resonance of)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 56-72-4; 60-51-5; 62-73-7; 78-34-2; 78-48-8; 86-50-0; 94-84-8; 121-75-5; 141-66-2; 150-50-5; 297-97-2; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 299-85-4; 299-86-5; 300-76-5; 301-12-2; 311-45-5; 333-41-5; 338-45-4; 563-12-2; 732-11-6; 786-19-6; 953-17-3; 961-22-8; 962-58-3; 1031-47-6; 1113-02-6; 1634-78-2; 2104-64-5; 2275-14-1; 2463-84-5; 3244-90-4; 7700-17-6 Role: PRP (Properties) (nuclear magnetic resonance of)
A description of the 100 MHz. N.M.R. of 40 organophosphorus pesticides is presented as an identification aid and reference source. Chem. shifts and coupling consts. are presented. Trends in chem. shifts and coupling consts. as related to structure are included. Homonuclear spin decoupling, integration, protonation with F3CCO2H, D2O exchange, temp., solvent and diln. effects, and supplemental 60 MHz. spectra all were employed in correlating the spectra with the structures of the corresponding mols. Interesting phenomena observed include long-range P to H coupling through four and five bonds, chem. nonequivalence of methylene groups and Me groups in (EtO)2P and (MeO)2P moieties, differences in the spectra of the cis and trans isomers of 2 pesticides due to anisotropic effects of their carbonyl groups, and magnetic nonequivalence of geminal methylene protons adjacent to an asymmetric C atom. 22 references. [on SciFinder (R)]
0004-5756 organophosphorus/ pesticides/ NMR

650. Keller, Beat, Maeder, Marlies, Becker-Laburte, Chantal, Kellenberger, Edward, and Bickle, Thomas A. (1986). Amber mutants in gene 67 of phage T4 : Effects on formation and shape determination of the head. *Journal of Molecular Biology* 190: 83-95.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Two amber mutations in gene 67 of bacteriophage T4 were constructed by oligonucleotide-directed mutagenesis and the resulting mutated genes were recombined back into the phage genome and their phenotype was studied. The 67amK1 mutation is close to the amino terminus of the gene, and phage carrying this mutation are unable to form plaques on suppressor-negative hosts. A second mutation, 67amK2, which lies in the middle of the gene, three codons N-terminal to a proteolytic cleavage site, produces a small number of viable phage particles. In suppressor-negative hosts, both mutants produce poly heads and proheads. 67amK1 assembles only few proheads that have a disorganized core structure, as judged from thin sections of infected cells. The proheads and the mature phages of both mutants are mainly isometric rather than having the usual prolate shape. Depending on the 67 mutant and the host, between 20% and 73% of the particles that are produced are isometric, and 1 to 10% are two-tailed biprolate particles. 67amK2 phages grown on a supD suppressor strain that inserts serine in place of the wild-type leucine do not contain gp67* derived from gene product 67 (gp67) by proteolytic cleavage. This demonstrates the importance of the correct amino acid at this position in the protein. Other abnormalities in these 67amK2 phages are the presence of uncleaved scaffolding core proteins (IPIII and gp68), indicating a structural alteration in the prohead scaffold, resulting in only partial cleavage. In wild-type phages these proteins are found in the head only in the cleaved form. With double-mutants of 67 with mutations in the major shell protein gp23 no naked scaffolding cores were found, confirming the necessity of gp67 for the assembly or persistence of a "normal" core.
http://www.sciencedirect.com/science/article/B6WK7-4DPCCSN-

13/2/cd3f777a6467ffc35c8e62be5e75ab5f

651. Keller, Beat, Sengstag, Christian, Kellenberger, Edward, and Bickle, Thomas A. (1984). Gene 68, a new bacteriophage T4 gene which codes for the 17K prohead core protein is involved in head size determination. *Journal of Molecular Biology* 179: 415-430.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

We have identified the gene for a major component of the prohead core of bacteriophage T4, the 17K protein. The gene, which we call gene 68, lies between genes 67 and 21 in the major cluster of T4 head genes. All of the genes in this region of the T4 genome have overlapping initiation and termination codons with the sequence T-A-A-T-G. We present the DNA sequence of the gene and show that it codes for a protein containing 141 amino acids with an acidic aminoterminal half and a basic carboxyl terminus. Antibodies prepared against the 17K protein were used to show that it is cleaved by the phage-coded gp21 protease during head maturation and that most of the protein leaves the head after cleavage. A frameshift mutation of the gene was constructed in vitro and recombined back into the phage genome. The mutated phages had a drastically reduced burst size and about half of the particles produced were morphologically abnormal, having isometric rather than prolate heads. Thus, the 17K protein is involved in head shape determination but is only semi-essential for T4 growth. http://www.sciencedirect.com/science/article/B6WK7-4FNGD09-5W/2/4a56b3275761478996233bbad6ff9704

652. Kent, T. A., Spartalian, K., Lang, G., Yonetani, Takashi, Reed, Christopher A., and Collman, James P. (1979). High magnetic field mossbauer studies of deoxymyoglobin, deoxyhemoglobin, and synthetic analogues. *Biochimica et Biophysica Acta (BBA) - Protein Structure* 580: 245-258.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Mossbauer spectra of deoxymyoglobin, deoxyhemoglobin, and the synthetic analogues, iron (II) 2-methylimidazole meso-tetraphenylporphyrin, and iron (II) 1,2-dimethylimidazole meso-tetraphenylporphyrin have been observed in high magnetic fields and over a wide range of temperature. At temperatures greater than 20 K all materials exhibit remarkably similar spectra, with anisotropic internal magnetic fields decreasing as 1/T. All have negative quadrupole interaction, and both this and the magnetic anisotropy imply that the orbital of the odd electron is prolate in the ground quintet, with little unquenched orbital angular momentum. At 4.2 K the spectra differ, suggesting different detailed structure within the quintet. In contrast to the proteins, the 2-methyl model exhibits spectra at 4.2 K which imply that the lowest spin state has high susceptibility in a single direction. Hemoglobin/ Myoglobin/ Mossbauer spectroscopy/ (Analogs) http://www.sciencedirect.com/science/article/B73GJ-47S1446-7W/2/a0eaf6e1c9648cbde0b43eabf4de2cdb

653. Khavkin, M. J. and Khavkin, J. A (1996). A ferromagnetic biosensor for simple assay of organophosphate pesticides. *Analytical Letters* 29: 1041-1054.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:341028
Chemical Abstracts Number: CAN 125:78686
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Environmental analysis; Food analysis; Pesticides (ferromagnetic biosensor for simple assay of organophosphate pesticides); Biosensors (enzymic, ferromagnetic biosensor for simple assay of organophosphate pesticides); Organic compounds Role: ANT (Analyte), ANST (Analytical study) (phosphorus-contg., ferromagnetic biosensor for simple assay of

organophosphate pesticides)
CAS Registry Numbers: 52-68-6 (Chlorophos); 121-75-5 (Malathion); 732-11-6 Role: ANT (Analyte), ANST (Analytical study) (ferromagnetic biosensor for simple assay of organophosphate pesticides); 148-24-3 (8-Hydroxyquinoline); 21645-51-2 (Aluminum hydroxide) Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (ferromagnetic biosensor for simple assay of organophosphate pesticides); 9001-08-5 (Butyrylcholinesterase) Role: ARG (Analytical reagent use), BPR (Biological process), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study), PROC (Process), USES (Uses) (ferromagnetic biosensor for simple assay of organophosphate pesticides); 1309-37-1 (Ferric oxide) Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (g; ferromagnetic biosensor for simple assay of organophosphate pesticides) A new biospecific technique for organophosphate assay is described. The designed biosensor contains a ferromagnetic core passivated by an epoxide cover in a high-frequency elec. field. Complexing agent mol. with an 8-hydroxyquinoline region is covalently bound to the cover and serves for strong fixation of aluminum hydroxide. This compn. \"Magnosorb\" binds with the enzyme butyrylcholinesterase. Such a biosensor has high sensitivity to inhibition by organophosphate pesticides (up to 20-50 ng per mL). Various environment and food compds. can be tested without laborious preliminaries. However, the sensor's ability for inhibition is gradually decreased when the full component is stored, whereas esterase activity is more stable. This phenomenon is called \"Functional Disadequacy\", and can be cor. with the help of a \"Binary Sensor\" technique, in which the sensor is made up of two parts (carrier \"Magnosorb\" and fresh dissolved enzyme) just before use. The proposed method can be used in broad inspection monitoring of an \"Alarm Signal\". [on SciFinder (R)] 0003-2719 ferromagnetic/ biosensor/ assay/ organophosphate/ pesticide

654. Kheiri, S., Khayami, M., Osaloo, S. K., and Mahmoodzadeh, A. (2006). Pollen Morphology of Some Species of Verbasum (Scrophulariaceae) in Urmia. *Pakistan Journal of Biological Sciences, 9 (3) pp. 434-436, 2006*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: SURVEY.

ISSN: 1028-8880
Descriptors: SEM
Descriptors: LM
Descriptors: Morphology
Descriptors: Pollen grain
Descriptors: Verbascum
Abstract: Pollen morphology of seven species was investigated by light and Scanning Electron Microscopy (SEM). Pollen grains are monad and elliptic to oblique at the equatorial view, circular-triangle at the polar view, trizonocolporate, isopolar and spheroidal prolate, prolate or perprolate. The pollen is small or medium sized in V. szovitsianum Boiss., V. agrimonfolium (C. Koch) Hub-Mor., V. mucronatum Lam., V. sinuatum L., V. macrocarpum Boiss., V. oreophilum C. Koch var. oreophilum and V. cheiranthifolium Boiss., Exine ornamentation is reticulate but in V. agrimonifolium (C. Koch) Hub-Mor., it is microreticulate. (copyright) 2006 Asian Network for Scientific Information.
10 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Pakistan
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

655. King, Richard J., Simon, Dexter, and Horowitz, Paul M. (1989). Aspects of secondary and quaternary structure of surfactant protein A from canine lung. *Biochimica et Biophysica Acta (BBA) - Lipids*

and Lipid Metabolism 1001: 294-301.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

The results of a large number of studies indicate that pulmonary surfactant contains a unique protein whose principal isoform has a molecular weight of about 30 000, and whose presence in surfactant is associated with important metabolic and physicochemical properties. This protein, SP-A, as isolated from canine surfactant, contains a domain of 24 repeating triplets of Gly-X-Y, similar to that found in collagens. These studies were undertaken to determine whether SP-A forms a collagen-like triple helix when in solution, and to describe certain aspects of its size and shape. Our experiments were done on SP-A extracted by two different methods from canine surfactant, and on SP-A produced by molecular cloning. The results from all three preparations were similar. The circular dichroism of the complete protein was characterized by a relatively large negative ellipticity at 205 nm, with a negative shoulder ranging from 215 to 230 nm. There was no positive ellipticity, and the spectrum was not characteristic of collagen. Trypsin hydrolysis resulted in a fragment with peak negative ellipticity at about 200 nm, without the negative shoulder. Further hydrolysis of this fragment with pepsin resulted in a CD spectrum similar to that of collagen. The spectrum of the collagen-like fragment was reversibly sensitive to heating to 50[degree sign]C, and was irreversibly lost after treatment with bacterial collagenase. SP-A migrated on molecular sieving gels with an equivalent Stokes radius of 110 to 120 A, and had a sedimentation coefficient of 14 S. Using these data we calculate a molecular weight of about 700 000. The hydrodynamic characteristics can be approximated as a prolate ellipsoid of revolution having an axial ratio of about 20. We conclude that SP-A aggregates into a complex of 18 monomers, which may form six triple-helices. The shape of the complex is considerably more globular than collagen and is not consistent with end-to-end binding of the helices to form fibrous structures. Pulmonary surfactant/ Tubular myelin/ Alveolar surface tension/ Alveolar stability/ Lipoprotein/ (Canine lung) http://www.sciencedirect.com/science/article/B6T1X-48897KT-6C/2/22b8a96d28a4bb3c68b4f39baa1aa5f9

656. Kiraly, J., Czeizel, A., and Szentesi, I. (Genetic Study on Workers Producing Organophosphate Insecticides. *Mutat. Res. 46(3): 224; 1977.*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: PESTAB. Organic phosphorus insecticides may cause human chromosome mutations in persons with severe acute intoxication. In order to obtain data on the genetic effect of prolonged occupational exposure to small doses a study was initiated on workers producing and formulating organic phosphorus insecticides in the Budapest Chemical Works. On the one hand the chromosomes of O-control (49 persons), industrial control (14 persons), positive control (tetrachlorobenzene, 25 persons) and three organophosphate insecticide groups (trichlorfon, 17 persons; diazinon, 34 persons; phosmet, 25 persons) were studied in peripheral blood cultures. The frequency of chromatid-type aberrations in all organophosphate groups was higher than in controls. Occurrence of stable chromosome-type aberrations was higher in the diazinon group. On the other hand a genetic-epidemiologic survey has been made of nearly 2000 workers. Evaluation of data is in process. (Author abstract by permission)

657. Kiraly, J., Szentesi, I., Ruzicska, M., and Czeize, A (1979). Chromosome studies in workers producing organophosphate insecticides. *Archives of Environmental Contamination and Toxicology* 8: 309-19.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1979:461895
Chemical Abstracts Number: CAN 91:61895
Section Code: 59-3
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5, 25

Document Type: Journal
Language: written in English.
Index Terms: Chromatid; Chromosome (aberration of, from organophosphorus insecticide exposure); Air pollution (by organophosphorus insecticides, chromatid- type and chromosome-type aberrations from); Insecticides (organophosphorus, air pollution from prodn. of, chromatid-type and chromosome-type aberrations in relation to)
CAS Registry Numbers: 95-94-3P; 333-41-5P; 732-11-6P Role: PREP (Preparation) (air pollution from prodn. of, chromatid-type and chromosome-type aberrations in relation to) The chromatid-type and labile chromosome-type aberrations occurred frequently in the factory-employees control group, are probably caused by airborne pollution. Workers producing 1,2,4,5-tetrachlorobenzene [95-94-3] showed a cluster of chromosome aberrations. No appreciable increase was found in the lindane workers; chromatid-type aberrations were moderately increased in workers in the Basudin E (I) [333-41-5] and the safidon 40 WP (II) [732-11-6] groups; stable chromosome-type aberrations were obsd. in the I and the II groups. [on SciFinder (R)] 0090-4341 organophosphate/ insecticide/ chromosome/ aberration;/ chromatid/ aberration/ organophosphate/ insecticide

658. Kiryushina, L. P. (Chromatographic Determination of Basudin Residues in Soil, Water, and Fish. *Khim. Sel. Khoz. 14(12): 54* 1976..
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: NON-ENGLISH.

ABSTRACT: PESTAB. Thin-layer chromatographic method for the determination of basudin (diazinon) in soil, water, and fish is described. After extraction with n-hexane, the residue is determined on a silica gel plate, using an n-hexane- acetone mixture (9:1) as a solvent system. The plate is sprayed with bromphenol blue and silver nitrate solutions, and then with 2% citric acid or 5% acetic acid solution for background color suppression. Diazinon forms dark blue spots against a yellow background. The sensitivity of the method is 2 mu in the water sample and 5mu in soil and fish. The Rf value of diazinon is 0.35, that of its metabolite is 0.14. Fenthion, methyl parathion, ronnel, dimethoate, dichlorvos, phosalone, and fenitrothion do not interfere with the determination, but trichlorfon and phthalophos (phosmet) do.
LANGUAGE: rus

659. Klaij, M. C. and Vachaud, G. (1992). Seasonal water balance of a sandy soil in Niger cropped with pearl millet, based on profile moisture measurements. *Agricultural Water Management* 21: 313-330.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

In the Sahel, calculation of the field water balance from neutron-probe measurements is often difficult for pearl millet (Pennisetum glaucum (L.) R. Br.), which is due to the rapid drainage (D) of the sandy soils, on which it is typically grown. We present a simple method of calculating D in these soils from weekly neutron-probe data. The method divides the water balance into two phases. In the first, applicable early in the season, water flux across the maximum depth of probe measurement (Zm) is assumed negligible, and evapotranspiration (E) and D are calculated from the change in soil water content ([theta]) between the bottom of the rootzone (Zr) and Zm, thus allowing calculation of unsaturated hydraulic conductivity, K([theta]), from the flux across Zr. In the second phase, when soil water starts to percolate across Zm, D is calculated from K([theta]), assuming a hydraulic head gradient of -1. The method is used to calculate a one-dimensional water balance of a pearl-millet crop grown in a deep sandy soil at two fertility levels during a season of normal rainfall. Results show that the calculated K([theta]) functions compare well with those based on laboratory measurements. An acceptable estimate of drainage, and therefore E could be made. Mean cumulative E and D were, respectively, 211 and 207 mm for the unfertilized crop, and 268 and 148 mm for the fertilized crop with 440 mm of rainfall received during the crop cycle. The fertilized millet crop water balance was simulated, which compared to the calculation method resulted in an about 10% higher seasonal E and a 10% lower seasonal D. Our study shows that E can be corrected for D using a simple but accurate method, and consistent with other studies in the region indicates that rainfall is usually not the primary limiting factor to pearl-millet production. http://www.sciencedirect.com/science/article/B6T3X-488G267-

89/2/860905139e734c86684a10e7e4a766f8

660. Klassen, W. and Schwartz, P. H Jr (1985). Agricultural Research Service Usa Research Program in Chemical Insect Control. *Hilton, j. L. (Ed.). Beltsville symposia in agricultural research, vol. 8. Agricultural chemicals of the future* Meeting, beltsville, md., Usa, may 16-19, 1983. Xv+464p. Rowman and allanheld publishers: totowa, n.j., Usa. Illus. Isbn 0-86598-138-8.; 0: 267-292.
Chem Codes: Chemical of Concern: PSM Rejection Code: METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM INSECTICIDE APPLICATION TECHNOLOGY DEPARTMENT OF AGRICULTURE
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: ARCHAEOLOGY
MESH HEADINGS: BIOLOGY/HISTORY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Institutions
KEYWORDS: General Biology-Symposia
KEYWORDS: General Biology-History and Archaeology
KEYWORDS: Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: eng

661. Kligerman, M. M., Liu, T., Liu, Y., Scheffler, B., He, S., and Zhang, Z. (Interim Analysis of a Randomized Trial of Radiation Therapy of Rectal Cancer With/Without Wr-2721. *Int j radiat oncol biol phys. 1992; 22(4):799-802. [International journal of radiation oncology, biology, physics]: Int J Radiat Oncol Biol Phys.*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: The objectives of this randomized trial are to define the maximum tolerated dose of radiation therapy, at curative dose levels, that can be delivered following WR-2721, and to observe the anti-tumor effects and normal tissue responses. One hundred patients with inoperable, unresectable, or recurrent rectal cancer were stratified and randomized to radiation only, or WR-2721 and radiation. The entire pelvis is treated with 4 portals 4 times a week to a total of 4500 cGy (first level dose) in 5 weeks. WR-2721, 340 mg/m2 was given 15 minutes before radiation to the combination group. Subsequently, both groups received a conedown of 720 cGy in 4 days to 144(2) cm portals APPA, and if originally inoperable or unresectable 720 cGy in four days to second conedown of 64(2) cm. Patients were observed from 3 to 18 months (median = 12 months). No significant hypotension or hematologic toxicity occurred in the WR-2721 treated group. Mild to moderate emesis occurred in 80% of the courses. (No antiemetics were used.) Moderate or severe acute toxicities to normal tissues were observed less frequently in the WR-

2721 arm. No moderate or severe late toxicities to the skin, mucous membrane, urinary bladder or intestine was observed in the WR-2721 group, however, 5 patients treated with radiation alone experienced moderate or severe late toxicity to these organs. No evidence of tumor protection was observed.
MESH HEADINGS: Adenocarcinoma/drug therapy/*radiotherapy
MESH HEADINGS: Adolescent
MESH HEADINGS: Adult
MESH HEADINGS: Aged
MESH HEADINGS: Amifostine/adverse effects/*therapeutic use
MESH HEADINGS: Combined Modality Therapy
MESH HEADINGS: Humans
MESH HEADINGS: Middle Aged
MESH HEADINGS: Rectal Neoplasms/drug therapy/*radiotherapy
LANGUAGE: eng

662. Klimko, M., Idzikowska, K., Truchan, M., and Kreft, A. (2004). Pollen Morphology of Plantago Species Native to Poland and Their Taxonomic Implications. *Acta Societatis Botanicorum Poloniae, 73 (4) pp. 315-325, 2004*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0001-6977
Descriptors: Plantaginaceae
Descriptors: Plantago
Descriptors: Pollen morphology
Descriptors: SEM
Abstract: Pollen grains of 9 species of the genus Plantago (Plantaginaceae), including 8 taxa native to Poland, were observed under a light microscope and a scanning electron microscope. Descriptions of grain sculpture are illustrated only SEM micrographs. The studied pollen grains were medium-sized or small, spherical or prolate spheroidal. Their sculpture was always verrucate with granulation. In the studied taxa, internal apertures had the form of pores. Their number ranged from (4)5-9(14). The pores were scattered on the surface of pollen grains. Identification features of individual taxa include: presence or absence of an annulus around each pore, annulus structure, ornamentation of the pollen grain and operculum, type of aperture membrane, number of internal pores, and pore diameter. We suggest that two new pollen grain types, characteristic of P. intermedia and P. arenaria, should be distinguished, and that P. alpina should be assigned to the P. coronopus type.
30 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Poland
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

663. Klisenko, M. A., Pis'mennaia, M. V., Novitskaia, L. P., and Brodskaia, N. M. ([Determination of Phthalophos and Phozalon in the Air]. *Gig sanit. 1967, aug; 32(8):67-70. [Gigiena i sanitariia]: Gig Sanit*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

MESH HEADINGS: *Air Pollution
MESH HEADINGS: Benzoxazoles/analysis
MESH HEADINGS: Imides/*analysis

MESH HEADINGS: Methods
MESH HEADINGS: Pesticides/*analysis
MESH HEADINGS: Rodenticides/*analysis
MESH HEADINGS: Spectrophotometry
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Opredelenie ftalofosa i fozalona v vozdukhe.

664. Klisenko, M. A. and Pis'mennaya, M. V. (Effects of Uv Radiation on Dialkyldithiophosphate Pesticides. *Khim. Sel. Khoz.11(12): 916-918* 1973.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

ABSTRACT: PESTAB The effect of UV radiation in the wavelength range of 250-400 nm on the decomposition of phencapton, phthalophos (phusmet), sayfos (menazon), phosalone, and cidial (phorate) was studied by UV spectrometry and enzyme thin-layer chromatography. The photochemical decomposition of the dialkyldithiophosphates can be described kinetically by a first-order reaction. The half-lives of phencapton, cidial, phosalone, phthalophos, and sayfos were 12, 11, 86, 70, and 630 min. Decomposition, primarily through oxidation of the P-S group, is assumed. Phthalimide, P-O analogs, N-oxymethylphthalimide, and phthalic acid were identified as the decomposition products of phthalophos.
LANGUAGE: rus

665. Knorr, K. H. and Blodau, C. (2006). Experimentally Altered Groundwater Inflow Remobilizes Acidity From Sediments of an Iron Rich and Acidic Lake. *Environmental Science & Technology [Environ. Sci. Technol.]. Vol. 40, no. 9, pp. 2944-2950. 1 May 2006.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0013-936X
Descriptors: Article Subject Terms: Acidic wastes
Descriptors: Acidity
Descriptors: Environmental impact
Descriptors: Flow Rates
Descriptors: Flow rates
Descriptors: Groundwater
Descriptors: Groundwater pollution
Descriptors: Hydrogen Ion Concentration
Descriptors: Iron
Descriptors: Lakes
Descriptors: Percolation
Descriptors: Sediment Contamination
Descriptors: Sediment chemistry
Descriptors: Sediment pollution
Descriptors: Sediment transport
Descriptors: Sediments
Descriptors: Sulfates
Descriptors: Sulfur
Descriptors: Sulphur
Descriptors: inflow
Descriptors: pH
Abstract: To study the impact of changes in groundwater flow and chemistry on acidity export from sediments in acid mine drainage (AMD) polluted lakes, a column experiment was carried out. Schwertmannite rich sediment was subjected to three different flow rates (0, 5, and 20 L m super(-2) a super(-1)), two percolate chemistries (1/1 mmol L super(-1) vs 10/15 mmol L super(-1) sulfate/ferrous iron, pH 5), and DOC input (similar to 2.5 mmol C L super(-1)). Percolation induced acidity export in all percolated treatments (8.8-40.4 mol m super(-2) a super(-1)) by accelerated proton generation from schwertmannite transformation (18.0-35.9 mol m super(-2) a super(-1)) and ferrous iron release (3.8-11.6 mol m super(-2) a super(-1)) from the sediment

matrix. Mobilization increased with flow rate and decreased with sulfate and iron concentrations. Unspecifically bound ferrous iron contents increased within the sediment (up to 40.5 mol m super(-2) a super(-1)) when iron concentrations in the percolate were high. Reduced sulfur species formed following raises in pH, but acidity consumption through this process (0.3-6.6 mol m super(-2) a super(-1)) and the formation of carbonates (0.11-0.45 mol m super(-2) a super(-1)) remained small. The study thus suggests that increases in groundwater inflow remobilize acidity from AMD polluted sediments.
DOI: 10.1021/es051874u
Language: English
English
Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: SW 3020 Sources and fate of pollution
Classification: AQ 00002 Water Quality
Classification: Q5 01503 Characteristics, behavior and fate
Classification: Q2 02187 Geochemistry of sediments
Classification: P 2000 FRESHWATER POLLUTION
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation
Subfile: Environmental Engineering Abstracts; ASFA 2: Ocean Technology Policy & Non-Living Resources; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Aqualine Abstracts; Water Resources Abstracts

666. Kobayashi, M., Nagayama, T., Hashimoto, T., Haneishi, N., Ito, M., Tamura, Y., and Tomomatsu, T. (1998). Survey of Pesticides Residues in Vegetable Products Collected From 1994 Through 1997. *Journal of the food hygienic society of japan* 39: 233-239.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO SPECIES (DEAD).

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE ORGANOPHOSPHORUS PESTICIDES FOOD CONTAMINANT ORGANOCHLORINE PESTICIDES CARBAMATE PESTICIDES INSECTICIDES FUNGICIDES HERBICIDES VEGETABLE PRODUCTS FOODS VEGETABLE PRODUCT
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-General
KEYWORDS: Pest Control
LANGUAGE: jpn

667. Koch, Arthur L. (1992). Differences in the formation of poles of Enterococcus and Bacillus. *Journal of Theoretical Biology* 154: 205-217.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

The pole of Enterococcus hirae (Streptococcus faecium) is more pointed than that of Bacillus subtilis; i.e. the pole of the former is prolate and the latter is oblate. Both species form their poles by constructing annular additions on the inside surface. In both cases, the thick septum starts to split from the outside before the septum is complete. Physiochemical considerations dictate that the peptidoglycan must be unstretched as laid down. However, it later becomes stressed and may stretch to increase its surface area or to change its shape. Our earlier analysis for B. subtilis demonstrated that, without the addition of new peptidoglycan, the nascent wall is stretched after it is externalized to 1[middle dot]51 times the original area. The wall of partially formed poles that is already exteriorized continues to deform with further development. For E. hirae, Higgins & Shockman's measurements showed that the completed pole has a surface area 2[middle dot]18 times larger than a completed septal disk and the wall changes shape very little after

exteriorization. A model is presented here for the streptococcus in which the septal wall does not increase its surface area on exteriorization either by expansion or by murein insertion. Instead, the septal wall as it is split and exteriorized twists to become oblique, increasing the inner radius of the incomplete septum. In consequence of this rotation, extra layers of peptidoglycan are added to the inside face of the developing septum. This additional murein forms the more pointed pole shape for E. hirae. This "split-and-splay" model thus refines and extends the surface stress theory of E. hirae developed a decade ago by proposing a source of the extra wall needed for the formation of its prolate, more pointed, pole.
http://www.sciencedirect.com/science/article/B6WMD-4KDGR73-4/2/f92fb13f2f499c1a990b7ede5718badd

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2002:787163
Chemical Abstracts Number: CAN 138:105781
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with, Supersonic; multiresidue method for pesticide detn. in food matrixes by Supersonic GC-MS); Gas chromatography (mass spectrometry combined with, Supersonic; multiresidue method for pesticide detn. in food matrixes by Supersonic GC-MS); Food analysis; Origanum vulgare; Pesticides (multiresidue method for pesticide detn. in food matrixes by Supersonic GC-MS); Food contamination (multiresidue method for pesticide detn. in spice matrix by Supersonic GC-MS)
CAS Registry Numbers: 50-29-3 (DDT); 51-03-6 (Piperonyl butoxide); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (DDD); 72-55-9 (DDE); 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 90-43-7 (o-Phenylphenol); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 133-07-3 (Folpet); 148-79-8 (Thiabendazole); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 709-98-8 (Propanil); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1825-21-4 (Pentachloroanisole); 1861-32-1 (Dacthal); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 2008-41-5 (Butylate); 2032-65-7 (Methiocarb); 2132-70-9 (Methoxychlor olefin); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2497-06-5 (Disulfoton sulfone); 3734-49-4 (Nonachlor); 5598-13-0 (Chlorpyrifos-methyl); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 12789-03-6D (Chlordane); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23950-58-5 (Propyzamide); 27813-21-4 (Tetrahydrophthalimide); 30560-19-1 (Acephate); 33213-65-9 (Endosulfan II); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 40487-42-1 (Pendimethalin); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52918-63-5 (Deltamethrin); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 66230-04-4 (Esfenvalerate); 68359-37-5 (Cyfluthrin); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), POL

(Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue method for pesticide detn. in food matrixes by Supersonic GC-MS)
Citations: 1) Dressler, M; Selective Gas Chromatographic Detectors 1986
Citations: 2) Cairns, T; Emerging Strategies For Pesticide Analysis 1992
Citations: 3) Cheskis, S; Anal Chem 1993, 65, 539
Citations: 4) Amirav, A; Anal Chem 1995, 67, 3305
Citations: 5) Amirav, A; J Chromatogr A 1998, 814, 133
Citations: 6) Fillion, J; J AOAC Int 2000, 83, 698
Citations: 7) Gamon, M; J AOAC Int 2001, 84, 1209
Citations: 8) Sheridan, R; J AOAC Int 1999, 82, 982
Citations: 9) Stein, S; J Am Soc Mass Spectrom 1999, 10, 770
Citations: 10) Halket, J; Rapid Com Mass Spectrom 1999, 13, 279
Citations: 11) Dagan, S; J Chromatogr A 2000, 868, 229
Citations: 12) Sphon, J; J Assoc Off Anal Chem 1978, 61, 1247
Citations: 13) Cairns, T; Anal Chem 1995, 552A-557A
Citations: 14) Baldwin, R; J Am Soc Mass Spectrom 1997, 8, 1180
Citations: 15) Bethem, R; J Am Soc Mass Spectrom 1998, 9, 643
Citations: 16) Dagan, S; Int J Mass Spectrom Ion Proc 1994, 133, 187
Citations: 17) Dagan, S; J Am Soc Mass Spectrom 1996, 7, 737
Citations: 19) Amirav, A; Advances in Mass Spectrometry 1998, 14, 529
Citations: 20) Dagan, S; Eur Mass Spectrom 1998, 4, 15
Citations: 21) Amirav, A; Eur Mass Spectrom 1998, 4, 7
Citations: 22) Wainhaus, S; J Am Soc Mass Spectrom 1998, 9, 1311
Citations: 23) Amirav, A; Int J Mass Spectrom Ion Proc 1990, 97, 107
Citations: 24) Amirav, A; Org Mass Spectrom 1991, 26, 1
Citations: 25) Dagan, S; J Am Soc Mass Spectrom 1995, 6, 120
Citations: 26) Danon, A; J Chem Phys 1987, 86, 4708
Citations: 27) Danon, A; J Phys Chem 1989, 93, 5549
Citations: 28) Danon, A; Israel J Chem 1989, 29, 443
Citations: 29) Danon, A; Int J Mass Spectrom Ion Proc 1990, 96, 139
Citations: 30) Danon, A; Int J Mass Spectrom Ion Proc 1993, 125, 63
Citations: 31) Dagan, S; Int J Mass Spectrom Ion Proc 1995, 151, 159
Citations: 32) Davis, S; Rapid Com Mass Spectrom 1999, 13, 237
Citations: 33) Davis, S; Rapid Com Mass Spectrom 1999, 13, 247
Citations: 34) Amirav, A; Rapid Com Mass Spectrom 2001, 15, 811
Citations: 35) Amirav, A; Eur Mass Spectrom 1997, 3, 105
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Citations: 39) Chupka, W; J Chem Phys 1971, 54, 1936
Citations: 40) Genuit, W; Int J Mass Spectrom Ion Proc 1986, 73, 61
Citations: 41) Crawford, L; Int J Mass Spectrom Ion Phys 1972-1973, 10, 279
Citations: 42) Evans, J; Anal Chem 1975, 47, 961
Citations: 43) Kavanagh, P; Org Mass Spectrom 1980, 15, 334
Citations: 44) Jing, H; Anal Chem 1997, 69, 1426
Citations: 45) Lehotay, S; J AOAC Int 2000, 83, 680
Citations: 46) Lehotay, S; J Agric Food Chem 2001, 49, 4589
Citations: 47) Cairns, T; Rapid Commun Mass Spectrom 1993, 7, 971
Citations: 48) Liu, C; J Assoc Anal Chem 1989, 72, 984
Citations: 49) Mattern, G; J Assoc Anal Chem 1991, 74, 982 The authors developed a new instrumental approach, termed Supersonic GC-MS, which achieves fast, sensitive, confirmatory and quant. anal. of a broad range of pesticides in complex agricultural matrixes. This Supersonic GC-MS system is a modification of a bench-top Agilent 6890 GC+5972 MSD with a supersonic mol. beam (SMB) interface and fly-through EI ion source. One of the main advantages of Supersonic GC-MS is an enhanced mol. ion (M+) in the resulting mass spectra. For example, the

M+ was obsd. in all 88 pesticides that were studied using the Supersonic GC-MS, whereas only 36 of 63 (57%) pesticides that were investigated in std. GC-MS exhibited a M+. Also, the degree of matrix interference was exponentially reduced with the fragment mass by about 20-fold per 100 amu increasing mass. The enhancement of the M+ combined with the redn. in matrix background noise permit rapid full scan anal. of a potentially unlimited no. of pesticides, unlike selected ion monitoring or MS-MS in which specific conditions are required in segments for targeted pesticides. Furthermore, unlike the case with chem. ionization, EI-SMB-MS spectra still give accurate identification of compds. using common mass spectral libraries. In practice, libraries favor mass spectra in which the M+ appears; thus, Supersonic GC-MS produced better spectra for compd. identification than std. GC-MS. To achieve even lower identification limits, the M+ plus a second major ion (still using full scan data) gives higher signal-to-chem. noise ratios than the traditional 3-ion approach. The replacement of two low-mass ions with the M+ (supersonic two-ions method) results in a significant redn. of matrix interference by a factor of ?90. Another main advantage of Supersonic GC-MS is its exceptional suitability for fast GC-MS with high carrier gas flow-rate. Fast Supersonic GC-MS was able to det. thermally labile pesticides, such as carbamates, that are difficult or impossible to det. in std. GC-MS. Large vol. injection using a ChromatoProbe was also demonstrated, in the 6-min anal. of a spice matrix for pesticides at 20 ng/g. [on SciFinder (R)] 0021-9673 pesticide/ detn/ spice/ Supersonic/ GC/ MS;/ gas/ chromatog/ mass/ spectrometry/ pesticide/ food

669. Koeber, R. and Niessner, R. (1996). Screening of Pesticide-Contaminated Soil by Supercritical Fluid Extraction (Sfe) and High-Performance Thin-Layer Chromatography With Automated Multiple Development (Hptlc). *Fresenius' journal of analytical chemistry* 354: 464-469.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A method for screening of pesticide-contaminated soil was developed. The extraction is carried out by supercritical carbon dioxide (CO_2) with methanol as a modifier. The different components of the extracts are separated by high-performance thin-layer chromatography with automated multiple development (HPTLC) and evaluated densitometrically. The technique can be carried out without any previous clean-up step. Compared with other extraction techniques, SFE has the advantages of reducing the amount of co-extracted soil contents, which can seriously deteriorate the results. A 35-step development of the TLC-plate with gradient elution offers an application over a wide range of polarity. Migration data for 107 pesticides, recoveries and detection limits for 20 pesticides were determined.
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: METHODS
MESH HEADINGS: PLANTS
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Toxicology-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air

KEYWORDS: Soil Science-General
KEYWORDS: Pest Control
LANGUAGE: eng

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Ultracentrifugal and viscosity studies have been carried out on crystalline bovine plasma albumin at various temperatures using 0.2 M NaCl as solvent. Ultracentrifugal studies on crystalline bovine plasma albumin dissolved in 0.2 M NaCl have been carried out using three different speeds. There would appear to be a progressive increase in the value of the sedimentation constant at zero concentration with increase in temperature. The differences in the intercepts are statistically significant for a difference of ten degrees in temperature. This fact would indicate the failure of the correction formula when the temperature is ten degrees from 20 [degree sign]C. There is a progressively small decrease in sedimentation constant at zero concentration with an increase in the speed of rotation. Volume intrinsic viscosity was calculated, and from it, by use of the Simha and Perrin equations and the sedimentation constant, assuming the molecule to be a prolate ellipsoid, the molecular weight was found to be 64,500. The diameter and length were found to be 31.22 A. and 152.67 A., respectively. This agrees with values determined by other methods.
http://www.sciencedirect.com/science/article/B6WB5-4DW3H80-26R/2/06b3a3665cca97404ad88127e34d6501

671. Koerner, H. (1990). Influence of Plant Protectants on the Faunal Diversity of an Agricultural Landscape With Special Attention to Surface-Dwelling Arthropods in Fields. *Bayer landwirtsch jahrb* 67: 375-496.
Chem Codes : Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BEETLES SPIDERS CROP SPECIES FERTILIZERS PESTICIDES
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ARTHROPODS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: COLEOPTERA

MESH HEADINGS: ARACHNIDA
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Agronomy-General
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Pest Control
KEYWORDS: Invertebrata
KEYWORDS: Invertebrata
KEYWORDS: Angiospermae
KEYWORDS: Coleoptera
KEYWORDS: Arachnida
LANGUAGE: ger

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Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM LIVESTOCK PETS PHEROMONES PESTICIDE ENCAPSULATION MICROCAPSULES MATHEMATICAL MODEL MATHEMATICAL METHOD
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: CYBERNETICS
MESH HEADINGS: ENDOCRINE GLANDS
MESH HEADINGS: VETERINARY MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARTIODACTYLA
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-Biocybernetics (1972-)
KEYWORDS: Endocrine System-General
KEYWORDS: Veterinary Science-General
KEYWORDS: Pest Control
KEYWORDS: Bovidae
LANGUAGE: eng

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Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:358648
Chemical Abstracts Number: CAN 141:390203
Section Code: 4-4
Section Title: Toxicology
CA Section Cross-References: 2

Document Type: Journal
Language: written in English.
Index Terms: Animal cell line (CHO; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Amides Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (acid; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Ecotoxicity; Environmental pollution; Human; Pesticides; Structure-activity relationship; Transcription (estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Androgen receptors; Antiandrogens; Estrogen receptors Role: BSU (Biological study, unclassified), BIOL (Biological study) (estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Gene Role: ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (hERa; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Gene Role: ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (hERb; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Insecticides (organochlorine; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Insecticides (organophosphorus; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Environmental pollution (pesticide; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Pyrethrins Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (pyrethroids; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Gene Role: ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (reporter; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Estrogen receptors Role: BSU (Biological study, unclassified), BIOL (Biological study) (a; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); Estrogen receptors Role: BSU (Biological study, unclassified), BIOL (Biological study) (b; estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells)
CAS Registry Numbers: 50-29-3; 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 57-13-6D (Urea); 58-89-9 (g-Bhc); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 85-00-7 (Diquat); 87-86-5 (Pentachlorophenol); 90-43-7 (2-Phenylphenol); 91-53-2 (Ethoxyquin); 92-52-4 (Biphenyl); 94-74-6 (4-Chloro-o-tolyloxyacetic acid); 94-75-7 (2,4-Dichlorophenoxyacetic acid); 97-17-6 (Dichlofenthion); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 119-12-0 (Pyridaphenthion); 121-29-9 (Pyrethrin); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 133-06-2 (Captan); 133-07-3 (Folpet); 137-26-8 (Thiram); 148-79-8 (Thiabendazole); 290-87-9D (Triazine); 298-00-0 (Methyl-parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 319-85-7 (b-Bhc); 319-86-8 (d-Bhc); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 463-77-4D (Carbamic acid); 510-15-6 (Chlorobenzilate); 533-74-4 (Dazomet); 563-12-2 (Ethion); 640-15-3 (Thiometon); 709-98-8 (Propanil); 732-11-6 (Phosmet); 789-02-6; 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1014-70-6 (Simetryn); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1071-83-6 (Glyphosate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1698-60-8 (Chloridazon); 1836-75-5 (Nitrofen); 1836-77-7 (Chlornitrofen); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1982-47-4 (Chloroxuron); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2164-08-1 (Lenacil); 2212-67-1 (Molinate); 2255-17-6 (Fenitrothion oxon); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2439-01-2 (Chinomethionat); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 3337-71-1 (Asulam); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 3861-

47-0 (Ioxynil octanoate); 4685-14-7 (Paraquat); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7292-16-2 (Propaphos); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13516-27-3 (Iminoctadine); 13593-03-8 (Quinalphos); 13684-63-4 (Phenmedipham); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 17804-35-2 (Benomyl); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23564-05-8 (Thiophanate-methyl); 23950-58-5 (Propyzamide); 24151-93-7 (Piperophos); 25057-89-0 (Bentazone); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 26644-46-2 (Triforine); 27355-22-2 (Fthalide); 27605-76-1 (Probenazole); 28249-77-6 (Thiobencarb); 29104-30-1 (Benzoximate); 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 31895-21-3 (Thiocyclam); 32809-16-8 (Procymidone); 32861-85-1 (Chlomethoxyfen); 33089-61-1 (Amitraz); 33213-65-9 (b-Endosulfan); 34643-46-4 (Prothiofos); 35367-38-5 (Diflubenzuron); 35554-44-0 (Imazalil); 36335-67-8 (Butamifos); 36734-19-7 (Iprodione); 38527-91-2 (Prothiofos oxon); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41814-78-2 (Tricyclazole); 42576-02-3 (Bifenox); 42609-52-9 (Daimuron); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 50594-66-6 (Acifluorfen); 50594-67-7 (Acifluorfen-methyl); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51338-27-3 (Diclofop-methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 55814-41-0 (Mepronil); 57018-04-9 (Tolclofos-methyl); 57369-32-1 (Pyroquilon); 57837-19-1 (Metalaxyl); 58011-68-0 (Pyrazolynate); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 61432-55-1 (Dimepiperate); 64249-01-0 (Anilofos); 66063-05-6 (Pencycuron); 66332-96-5 (Flutolanil); 66841-25-6 (Tralomethrin); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68505-69-1 (Benfuresate); 68694-11-1 (Triflumizole); 69409-94-5 (Fluvalinate); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 71561-11-0 (Pyrazoxyfen); 73250-68-7 (Mefenacet); 74051-80-2 (Sethoxydim); 79538-32-2 (Tefluthrin); 79622-59-6 (Fluazinam); 80844-07-1 (Etofenprox); 83055-99-6 (Bensulfuron-methyl); 85785-20-2 (Esprocarb); 87130-20-9 (Diethofencarb); 88678-67-5 (Pyributicarb); 89269-64-7 (Ferimzone); 96491-05-3 (Thenylchlor); 97483-08-4 (Tolclofos-methyl oxon); 125306-83-4 (Cafenstrole); 133220-30-1 (Indanofan); 138261-41-3 (Imidacloprid) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells); 521-18-6 (5a-Dihydrotestosterone.) Role: BSU (Biological study, unclassified), BIOL (Biological study) (estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using chinese hamster ovary cells)

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Citations: Welch, R; Toxicol Appl Pharmacol 1969, 14, 358 The authors tested 200 pesticides, including some of their isomers and metabolites, for agonism and antagonism to two human estrogen receptor (hER) subtypes, hERa and hERb, and a human androgen receptor (hAR) by highly sensitive transactivation assays using Chinese hamster ovary cells. The test compds. were classified into nine groups: organochlorines, di-Ph ethers, organophosphorus pesticides, pyrethroids, carbamates, acid amides, triazines, ureas, and others. These pesticides were tested at concns. < 10-5 M. Of the 200 pesticides tested, 47 and 33 showed hERa- and hERb-mediated estrogenic activities, resp. Among them, 29 pesticides had both hERa and hERb agonistic activities, and the effects of the organochlorine insecticides b-benzene hexachloride (BHC) and d-BHC and the carbamate insecticide methiocarb were predominantly hERb rather than hERa agonistic. Weak antagonistic effects toward hERa and hERb were shown in five and two pesticides, resp. On the other hand, none of tested pesticides showed hAR-mediated androgenic activity, but 66 of 200 pesticides exhibited inhibitory activity against the transcriptional activity induced by 5a-dihydrotestosterone. In particular, the antiandrogenic activities of two di-Ph ether herbicides, chlornitrofen and chlomethoxyfen, were higher than those of vinclozolin and p,p'-dichlorodiphenyl dichloroethylene, known AR antagonists. The results of our ER and AR assays show that 34 pesticides possessed both estrogenic and antiandrogenic activities, indicating pleiotropic effects on hER and hAR. The authors also discussed chem. structures related to these activities. Taken together, our findings suggest that a variety of pesticides have estrogenic and/or antiandrogenic potential via ER and/or AR, and that numerous other manmade chems. may also possess such estrogenic and antiandrogenic activities. [on SciFinder (R)] 0091-6765 estrogen/ androgen/ receptor/ pesticide/ reporter/ gene/ assay/ CHO/ cell

674. Konecny, V., Varkonda, S., and Halgas, J (1979). Synthesis and pesticidal activity of some O-aryl bis(dimethylamido)phosphates and -thiophosphates. *Acta Facultatis Rerum Naturalium Universitatis Comenianae, Chimia* 27: 93-106.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1980:141779
Chemical Abstracts Number: CAN 92:141779
Section Code: 5-13

Section Title: Agrochemicals
CA Section Cross-References: 23
Document Type: Journal
Language: written in English.
Index Terms: Acaricides; Fungicides and Fungistats; Insecticides (arylbis(dimethylamido)phosphates and -thiophosphates); Molecular structure-biological activity relationship (pesticidal, of arylbis(dimethylamido)phosphates and -thiophosphates)
CAS Registry Numbers: 1440-97-7P; 21923-05-7P; 22017-65-8P; 22017-67-0P; 22017-68-1P; 29063-95-4P; 29063-98-7P; 35230-78-5P; 35230-82-1P; 35230-88-7P; 35289-28-2P; 35294-22-5P; 41464-33-9P; 50586-92-0P; 50586-93-1P; 56025-44-6P; 56025-55-9P; 56025-56-0P; 56110-76-0P; 60741-18-6P; 60893-33-6P; 73093-92-2P; 73093-93-3P; 73093-94-4P; 73093-95-5P; 73093-96-6P; 73093-97-7P; 73093-98-8P; 73093-99-9P; 73094-00-5P; 73094-01-6P; 73094-02-7P; 73094-03-8P; 73094-04-9P; 73094-05-0P; 73094-06-1P; 73094-07-2P; 73094-08-3P; 73094-09-4P; 73094-10-7P; 73094-11-8P; 73094-12-9P; 73094-13-0P; 73094-14-1P; 73094-15-2P; 73094-16-3P; 73094-17-4P; 73094-69-6P; 73094-70-9P; 73094-71-0P; 73094-72-1P; 73094-73-2P; 73094-74-3P; 73094-75-4P; 73094-76-5P; 73094-77-6P; 73094-78-7P; 73094-79-8P Role: AGR (Agricultural use), BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. and pesticidal activity of); 1605-65-8; 3732-81-8 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with phenols); 91-66-7 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with phenols and thiophosphoryl chloride) O-Arylbis(dimethylamido)phosphates and thiophosphates I (X = S or O ; R1,R2,R3,R4 = Cl, NO2, CH2OEt, etc.), were prepd. and their pesticidal (fungicidal, insecticidal, acaricidal) activities were related to their structure. The amidophosphates and thiophosphates were prepd. by 3 different methods, e.g., by treating the Na or K salt of the corresponding phenol with bis(dimethylamido)phosphate and thiophosphate in MeCN. The systemic insecticidal activity of I was lower than the activity of thiometon. I(X = S,R1 = 2-Cl, R2 = 4-NO2, R3 = R4 = H) [73094-17-4] was a more active acaricide than malathion and phosmet, but was less active than carbophenothion. O-8-Quinolylbis(dimethylamido)phosphate [73094-16-3] was the only I having fungicidal activity (against powdery mildew) higher than captan. None of the I had high herbicidal activity. [on SciFinder (R)] 0524-2312 amidophosphate/ pesticide;/ thiophosphate/ amido/ pesticide

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1980:210121
Chemical Abstracts Number: CAN 92:210121
Section Code: 5-4
Section Title: Agrochemicals
CA Section Cross-References: 23
Document Type: Journal
Language: written in English.
Index Terms: Acaricides; Fungicides and Fungistats; Herbicides; Insecticides (carbonylcarbamoylthiophosphates); Molecular structure-biological activity relationship (pesticidal, of alkoxycarbonylcarbamoylthiophosphates)
CAS Registry Numbers: 54267-28-6P; 54267-29-7P; 54267-30-0P; 54267-31-1P; 54267-32-2P; 54267-33-3P; 54267-34-4P; 54267-35-5P; 54267-40-2P; 73094-42-5P; 73094-43-6P; 73094-44-7P; 73094-45-8P; 73094-46-9P; 73094-47-0P; 73094-48-1P; 73094-49-2P; 73094-50-5P; 73094-51-6P; 73094-52-7P; 73094-53-8P; 73094-54-9P; 73094-55-0P; 73094-56-1P; 73094-57-2P; 73094-58-3P; 73094-59-4P; 73094-60-7P; 73094-61-8P; 73094-62-9P; 73094-63-0P; 73094-64-1P; 73094-65-2P; 73094-66-3P; 73094-67-4P; 73094-68-5P; 73095-08-6P; 73095-09-7P; 73095-

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676. Konidala, Praveen, He, Lizhong, and Niemeyer, Bernd (2006). Molecular dynamics characterization of n-octyl-[beta]-d-glucopyranoside micelle structure in aqueous solution. *Journal of Molecular Graphics and Modelling* 25: 77-86.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

n-Octyl-[beta]-d-glucopyranoside (OG) is a non-ionic glycolipid, which is used widely in biotechnical and biochemical applications. All-atom molecular dynamics simulations from two different initial coordinates and velocities in explicit solvent have been performed to characterize the structural behaviour of an OG aggregate at equilibrium conditions. Geometric packing properties determined from the simulations and small angle neutron scattering experiment state that OG micelles are more likely to exist in a non-spherical shape, even at the concentration range near to the critical micelle concentration (0.025 M). Despite few large deviations in the principal moment of inertia ratios, the average micelle shape calculated from both simulations is a prolate ellipsoid. The deviations at these time scales are presumably the temporary shape change of a micelle. However, the size of the micelle and the accessible surface areas were constant during the simulations with the micelle surface being rough and partially elongated. Radial distribution functions computed for the hydroxyl oxygen atoms of an OG show sharper peaks at a minimum van der Waals contact distance than the acetal oxygen, ring oxygen, and anomeric carbon atoms. This result indicates that these atoms are pointed outwards at the hydrophilic/hydrophobic interface, form hydrogen bonds with the water molecules, and thus hydrate the micelle surface effectively. Glycolipids/ Molecular dynamic simulations/ Micelle structure/ Radial distribution functions/ Aggregate surface http://www.sciencedirect.com/science/article/B6TGP-4HX47R8-3/2/6acf0362f6b8316d4d99f5a95c6c55df

677. Koniukhov, A. F. ([Analysis of Phthalophos in Pathologic Material and Feed]. *Veterinariia. 1976, nov(11):104-5. [Veterinariia]: Veterinariia*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

MESH HEADINGS: Animal Feed/*analysis
MESH HEADINGS: Insecticides/*analysis
MESH HEADINGS: Methods
MESH HEADINGS: Naphthalenes/analysis
MESH HEADINGS: *Organophosphorus Compounds
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Analiz ftalofos v pathologicheskom materiale i kormakh

678. Koniukhov, A. F. (Analysis of Phthalophos (Phosmet) in Pathological Materials and Feed. *Veterinarya (11): 104-105; 1976.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. A thin-layer chromatographic method for the determination of phthalophos in pathological materials, feed, and plant materials is described. After extraction with acetone, coextracted impurities are eliminated by reextraction with water and chloroform, and the final specimen in acetone is applied to a silica gel layer, using a 2:1 mixture of hexane and acetone as solvent system. Bromphenol blue in acetone and an aqueous solution of silver nitrate are used for visualization. After the plate is sprayed with acetic acid solution, phthalophos appears in the form of dark blue spots against a yellowish background. The Rf value is 0.52+-0.03. The sensitivity of the method is 0.3 mg/kg at a recovery rate of 88+-11%.
LANGUAGE: rus

679. Koniukhov, A. F., Poloz, D. D., and Kuul', A. A. ([Level of Phthalophos in the Organs of Rabbits in Acute Poisoning]. *Veterinariia. 1976, feb(2):92-4. [Veterinariia]: Veterinariia*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Acute Disease
MESH HEADINGS: Animals
MESH HEADINGS: Brain/metabolism
MESH HEADINGS: Insecticides/metabolism/*poisoning
MESH HEADINGS: Kidney/metabolism
MESH HEADINGS: Liver/metabolism
MESH HEADINGS: Muscles/metabolism
MESH HEADINGS: *Organophosphorus Compounds
MESH HEADINGS: Rabbits
MESH HEADINGS: Stomach/metabolism
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Soderzhanie ftalofosa v organakh krolikov pri ostrom otravlenii

680. Konyukhov, A. F., Poloz, D. D., and Kuul', A. A. (Phthalophos Levels in Organs of Rabbits Following Acute Poisoning. *Veterinariya (moscow) 2: 92-94; 1976.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. Chinchilla rats were sacrificed 2 hours to 20 days after poisoning with 100 or 50 mg/kg oral doses of phthalophos (phosmet) to investigate the distribution of the poison in different organs. General depression, reduction of muscle tones, miosis, sialorrhea, tremor, fasciculation of the dorsal muscles, spasm of the limbs, dyspnea, cyanosis, and coma were observed. The acetylcholinesterase activity dropped by 87%. Passive hyperemia of the blood vessels of the brain and parenchymatous organs was revealed on autopsy. Phthalophos and an unidentified metabolite with Rf = 0.72 were found in the gastric content and in the liver of animals killed 2 hours after poisoning. Phthalophos was no longer detectable in the gastric content of animals killed more than 4 days after poisoning, while residues appeared on the fourth day in the skeletal muscles and brain. Normalization of the acetylcholinesterase activity and disappearance of phthalophos residues from the organs was observed in animals killed on the 20th day.
LANGUAGE: rus

681. Koottatep, T., Polprasert, C., Hadsoi, S., and Kroiss, H. (ed) (2006). Integrated Faecal Sludge Treatment and Recycling Through Constructed Wetlands and Sunflower Plant Irrigation.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0273-1223
Descriptors: Article Subject Terms: Accumulation
Descriptors: Aquatic plants
Descriptors: Artificial wetlands
Descriptors: Bioaccumulation
Descriptors: Biomass
Descriptors: Body size

Descriptors: Cattails
Descriptors: Chemical Oxygen Demand
Descriptors: Chemical oxygen demand
Descriptors: Crops
Descriptors: Data processing
Descriptors: Drinking water
Descriptors: Environmental impact
Descriptors: Flowers
Descriptors: Heavy metals
Descriptors: Impoundments
Descriptors: Irrigation
Descriptors: Leaves
Descriptors: Load Distribution
Descriptors: Manganese
Descriptors: Metals
Descriptors: Nitrogen
Descriptors: Oil
Descriptors: Plantations
Descriptors: Recycling
Descriptors: Sanitation
Descriptors: Sludge
Descriptors: Sludge treatment
Descriptors: Sludges
Descriptors: Soil
Descriptors: Soils
Descriptors: Solids
Descriptors: Stems
Descriptors: Waste management
Descriptors: Water Management
Descriptors: Water management
Descriptors: Wetlands
Descriptors: Yield
Descriptors: Zinc
Descriptors: flowers
Descriptors: heavy metals
Descriptors: plant biomass
Descriptors: plantations
Descriptors: soil
Descriptors: Article Taxonomic Terms: Helianthus
Descriptors: Helianthus annuus
Descriptors: Typha
Abstract: Faecal sludge (FS) from the on-site sanitation systems is a nutrient-rich source but can contain high concentrations of toxic metals and chemicals and infectious micro-organisms. The study employed 3 vertical-flow CW units, each with a dimension of 5 x 5 x 0.65 m (width x length x media depth) and planted with cattails (Typha augustifolia). At the solid loading rate of 250 kg total solids (TS)/m super(2).yr and a 6-day percolate impoundment, the CW system could achieve chemical oxygen demand (COD), TS and total Kjeldahl nitrogen (TKN) removal efficiencies in the range of 80-96%. A solid layer of about 80 cm was found accumulated on the CW bed surface after operating the CW units for 7 years, but no clogging problem has been observed. The CW percolate was applied to 16 irrigation sunflower plant (Helianthus annuus) plots, each with a dimension of 4.5 x 4.5 m (width x length). In the study, tap water was mixed with 2O degree /o, 80% and 100% of the CW percolate at the application rate of 7.5 mm/day. Based on a 1 -year data in which 3 crops of plantation were experimented, the contents of Zn, Mn and Cu in soil of the experimental plots were found to increase with increase in CW percolate ratios. In a plot with 100% of CW percolate irrigation, the maximum Zn, Mn and Cu concentrations of 5.0, 12.3 and 2.5 mg/kg, respectively, were detected in the percolate-fed soil, whereas no accumulation of heavy

metals in the plant tissues (i.e. leaves, stems and flowers) of the sunflower were detected. The highest plant biomass yield and oil content of 1000 kg/ha and 35%, respectively, were obtained from the plots fed with 20% or 50% of the CW percolate.
Conference: 5. World Water Congress of the Int'l Water Association, Beijing (China, People's Rep.), 10-14 Sep 2006
DOI: 10.2166/wst.2006.846
Language: English
English
Publication Type: Book Monograph
Publication Type: Conference
Classification: A 01450 Environmental Pollution & Waste Treatment
Classification: SW 1030 Use of water of impaired quality
Classification: AQ 00008 Effects of Pollution
Classification: M3 1010 Issues in Sustainable Development
Classification: Q5 01503 Characteristics, behavior and fate
Subfile: Aqualine Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Sustainability Science Abstracts; Water Resources Abstracts; Environmental Engineering Abstracts; Microbiology Abstracts A: Industrial & Applied Microbiology

682. Koottatep, T., Polprasert, C., Oanh, N. T., Heinss, U., Montangero, A., and Strauss, M. (Septage Dewatering in Vertical-Flow Constructed Wetlands Located in the Tropics. *Water sci technol. 2001; 44(2-3):181-8. [Water science and technology : a journal of the international association on water pollution research]: Water Sci Technol*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Constructed wetlands (CWs) have been proven to be an effective low-cost treatment system, which utilizes the interactions of emergent plants and microorganisms in the removal of pollutants. CWs for wastewater treatment are ndrmally designed and operated in horizontal-flow patterns, namely, free-water surface or subsurface flow, while a vertical-flow operation is normally used to treat sludge or septage having high solid contents. In this study, three pilot-scale CW beds, each with a surface area of 25 m2, having 65 cm sand-gravel substrata, supported by ventilated-drainage system and planting with narrow-leave cattails (Typha augustifolia), were fed with septage collected from Bangkok city, Thailand. To operate in a vertical-flow mode, the septage was uniformly distributed on the surface of the CW units. During the first year of operation, the CWs were operated at the solid loading rates (SLR) and application frequencies of, respectively, 80-500 kg total solid (TS)/m2 x yr and 1-2 times weekly. It was found that the SLR of 250 kg TS/m2 x yr resulted in the highest TS, total chemical oxygen demand (TCOD) and total Kjeldahl nitrogen (TKN) removal of 80, 96 and 92%, respectively. The TS contents of the dewatered septage on the CW beds were increased from 1-2% to 30-60% within an operation cycle. Because of the vertical-flow mode of operation and with the effectiveness of the ventilation pipes, there were high degrees of nitrification occurring in the CW beds. The nitrate (NO3) contents in the CW percolate were 180-250 mg/L, while the raw septage had NO3 contents less than 10 mg/L. Due to rapid flow-through of the percolates, there was little liquid retained in the CW beds, causing the cattail plants to wilt, especially during the dry season. To reduce the wilting effects, the operating strategies in the second year were modified by ponding the percolate in the CW beds for periods of 2 and 6 days prior to discharge. This operating strategy was found beneficial not only for mitigating plant wilting, but also for increasing N removal through enhanced denitrification activities in the CW beds. During these 2 year operations, the dewatered septage was not removed from the CW beds and no adverse effects on the septage dewatering efficiency were observed.
MESH HEADINGS: *Ecosystem
MESH HEADINGS: Poaceae/growth &amp
MESH HEADINGS: development/physiology
MESH HEADINGS: Seasons
MESH HEADINGS: Sewage/*chemistry
MESH HEADINGS: *Tropical Climate

MESH HEADINGS: Waste Disposal, Fluid/*methods
MESH HEADINGS: Water Movements
MESH HEADINGS: Water Pollution/*prevention &amp
MESH HEADINGS: control
MESH HEADINGS: Water Purification/methods
LANGUAGE: eng

683. Koottatep, T., Surinkul, N., Polprasert, C., Kamal, A. S., Kon&Eacute, D, Montangero, A., Heinss, U., and Strauss, M. (Treatment of Septage in Constructed Wetlands in Tropical Climate: Lessons Learnt From Seven Years of Operation. *Water sci technol. 2005; 51(9):119-26. [Water science and technology : a journal of the international association on water pollution research]: Water Sci Technol*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

ABSTRACT: In tropical regions, where most of the developing countries are located, septic tanks and other onsite sanitation systems are the predominant form of storage and pre-treatment of excreta and wastewater, generating septage and other types of sludges. The septage is disposed of untreated, mainly due to lack of affordable treatment options. This study presents lessons that have been learned from the operation of pilotscale constructed wetlands (CWs) for septage treatment since 1997. The experiments have been conducted by using three CW units planted with narrow-leave cattails (Typha augustifolia) and operating in a vertical-flow mode. Based on the experimental results, it can be suggested that the optimum solids loading rate be 250 kg TS/m2 yr and 6-day percolate impoundment. At these operational conditions, the removal efficiencies of CW units treating septage at the range of 80-96% for COD, TS and TKN were achieved. The biosolid accumulated on the CW units to a depth of 80 cm has never been removed during 7 years of operation, but bed permeability remained unimpaired. The biosolid contains viable helminth eggs below critical limit of sludge quality standards for agricultural use. Subject to local conditions, the suggested operational criteria should be reassessed at the full-scale implementation.
MESH HEADINGS: Agriculture
MESH HEADINGS: Animals
MESH HEADINGS: Biodegradation, Environmental
MESH HEADINGS: *Developing Countries
MESH HEADINGS: Ecosystem
MESH HEADINGS: Filtration
MESH HEADINGS: Helminths/isolation &amp
MESH HEADINGS: purification
MESH HEADINGS: Ovum
MESH HEADINGS: Sanitation
MESH HEADINGS: *Sewage
MESH HEADINGS: *Tropical Climate
MESH HEADINGS: Waste Disposal, Fluid/*methods
LANGUAGE: eng

684. Koptsik, G. and Mukhina, I. (1995). Effects of Acid Deposition on Acidity and Exchangeable Cations in Podzols of the Kola Peninsula. *Water air and soil pollution* 85: 1209-1214.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Response of omegail and soil water of podzols in the Kola Peninsula to acid deposition was estimated under both field and laboratory conditions. A significant increasing trend of exchangeable acidity in organic (O) horizons and exchangeable Al in podzolic (E) horizons of podzols with distance from the nickel smelter was observed. The simulated rain at pH 4.5 did not alter chemical properties of soils and soil solutions. As much as 95-99% of the applied H+ ions were retained by soils and appeared in the percolates after a treatment period that depended on acid load and soil thickness. Ca and Mg in soil solutions were highly sensitive to acid loading. Simulated acid rain enhanced the leaching of exchangeable

base cations out of root zone. Acid inputs resulted in decreased pH, amount of exchangeable base cations and base saturation, in elevated exchangeable acidity and it's Al fraction in soil solid phase. The most significant changes occurred in O and E horizons. Substanti
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: MINERALS/ANALYSIS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
KEYWORDS: Ecology
KEYWORDS: Biochemical Methods-Minerals
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
LANGUAGE: eng

685. Koren, G., Chang, N., Gonen, R., Klein, J., Weiner, L., Demshar, H., Pizzolato, S., Radde, I., and Shime, J. (1990). Lead Exposure Among Mothers and Their Newborns in Toronto (Canada). *Can med assoc j* 142: 1241-1244.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Recent studies have suggested that a fetal blood lead level of 0.48 mumol (much lower than 1.21 mumol/L, which is the level previously believed to be toxic to the developing brain) may impair brain development permanently. We measured the maternal and umbilical cord blood levels of lead and free erythrocyte protoporphyrin (FEP) among 95 consecutive mother-infant pairs to determine whether neonates in Toronto are in the high-risk group. There was a significant correlation between the maternal and the cord blood lead levels ($r = 0.59$, $p < 0.0001$). Most (99%) of the infants had cord blood lead levels below 0.34 mumol/L; in 11 cases the levels were below the detection limit of 0.01 mumol/L. The cord blood FEP levels were higher than the maternal levels The US Centers for Disease Control, Atlanta, currently finds acceptable a blood FEP level of 0.62 mumol/L among children up to 10 years of age; however, this is not applicable to newborns since their higher FEP levels appa
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: HUMAN
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BILE PIGMENTS
MESH HEADINGS: PORPHYRINS
MESH HEADINGS: MINERALS
MESH HEADINGS: BLOOD CHEMICAL ANALYSIS
MESH HEADINGS: BODY FLUIDS/CHEMISTRY
MESH HEADINGS: LYMPH/CHEMISTRY
MESH HEADINGS: BLOOD CELLS/ULTRASTRUCTURE
MESH HEADINGS: BLOOD CELLS/PHYSIOLOGY
MESH HEADINGS: BLOOD CELLS/CHEMISTRY
MESH HEADINGS: NERVOUS SYSTEM DISEASES/PATHOLOGY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: CHILD DEVELOPMENT
MESH HEADINGS: PEDIATRICS
MESH HEADINGS: CELL DIFFERENTIATION
MESH HEADINGS: FETAL DEVELOPMENT
MESH HEADINGS: MORPHOGENESIS

MESH HEADINGS: EMBRYOLOGY
MESH HEADINGS: PUBLIC HEALTH ADMINISTRATION
MESH HEADINGS: STATISTICS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: MORBIDITY
MESH HEADINGS: NEOPLASMS
MESH HEADINGS: HOMINIDAE
KEYWORDS: Cytology and Cytochemistry-Human
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Biochemical Studies-Porphyrins and Bile Pigments
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Blood
KEYWORDS: Blood
KEYWORDS: Nervous System-Pathology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Pediatrics
KEYWORDS: Developmental Biology-Embryology-Morphogenesis
KEYWORDS: Public Health-Public Health Administration and Statistics
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Public Health: Epidemiology-Organic Diseases and Neoplasms
KEYWORDS: Hominidae
LANGUAGE: eng

686. Kortus, J., Kromery, V., Mayer, J., and Janovicova, J (1972). Inhibitory effect of imidane on the incorporation of [14C]-glutamic acid, [14C]-phenylalanine and [14C]-adenine into proteins and nucleic acids in Escherichia coli B. *Journal of Hygiene, Epidemiology, Microbiology, and Immunology* 16: 325-7.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1973:38553
Chemical Abstracts Number: CAN 78:38553
Section Code: 3-2
Section Title: Biochemical Interactions
Document Type: Journal
Language: written in English.
Index Terms: Nucleic acids Role: FORM (Formation, nonpreparative) (formation of, by Escherichia coli, imidane effect on); Proteins Role: FORM (Formation, nonpreparative) (formation of, by Escherichia coli, imidane inhibition of); Escherichia coli (nucleic acid and protein formation by, imidane effect on)
CAS Registry Numbers: 56-86-0; 63-91-2; 73-24-5 Role: BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (metabolism of, by Escherichia coli, imidane effect on); 732-11-6 Role: PRP (Properties) (nucleic acid and protein formation by Escherichia coli inhibition by) Imidane (I) [732-11-6] at 5 mg/ml. inhibited the incorporation of labeled glutamic acid and phenylalanine into proteins of growing E. coli B cultures, but even at 200 mg/ml did not affect the incorporation of adenine into nucleic acids. [on SciFinder (R)] 0022-1732 imidane/ protein/ nucleic/ acid/ synthesis

687. Korzhevenko, G. N., Leshchev, V. V., Metelev, V. V., and Brichko, V. F. (Rapid Method of Diagnosing Organophosphate Poisoning in Fish. *Veterinariya (9): 90-92; 1976.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. An enzyme chromatographic method for the rapid routine detection and

determination of organophosphorus pesticides in water and fish is described. After extraction with chloroform from water, and with acetone from fish, the extract is purified, and the thione phosphates are activated in hydrogen peroxide vapor. Organophosphorus pesticides as a group are visualized on chromatographic paper imbibed with a mixture of bromthymol blue and acetylcholinesterase. The sensitivity of the method amounts to 0.02 mg/kg in fish and to 0.002 mg/l in water for baytex (fenthion), DDVP (dichlorvos), phoxim, diazinon, trolen (ronnel), TCM-3, phosalone, and ciodrin; to 0.04 mg/kg in fish and 0.004 mg/l in water for methylnitrophos (fenitrothion), and to 0.1 mg/kg in fish and 0.01 mg/l in water for dursban (chlorpyrifos), carbophos (malathion), metaphos (methyl parathion), trichlorfon, and phthalophos (phosmet).
LANGUAGE: rus

688. Kovacicova, J. and Batora, V. (1973). Fenitrothion and Phosmet Residues in Crops Treated With Different Formulations. *Agrochemia (bratislava)* 13: 349-351.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. Fenitrothion (in the form of emulsifiable concentrates, wettable powder, and aerosol preparation for aerial application) was tested under field conditions in sown lucerne, cereals, rape, apple and pear-trees. Relatively high levels of fenitrothion are found, particularly in lucerne, even 13 days after aerial application of the aerosol (29. 9 mg/kg) or of the wettable powder (4. 9 mg/kg). The results of the analysis of the other crops indicate amounts not in excess of 0. 7 mg/kg which is the suggested tolerance in Czechoslovakia. Results on the persistence of phosmet in apples after the application of the emulsifiable preparation and the wettable powder ndicate that there are no apparent differences between the preparations and the applied concentrations (0. 1 and 0. 05% A). Since the residues are relatively low, it can be expected that their toxicological interpretation will be favorable. The determination of fenitrothion was based on gas chromatography using CsBröTID and that of phosmet on colorimetric enzymatic analysis.
LANGUAGE: cze

689. Kovacicova, J., Kovac, J., and Batora, V (1975). Column extraction of organophosphorus pesticide residues from plants. *Environmental Quality and Safety, Supplement* 3: 86-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1976:505160
Chemical Abstracts Number: CAN 85:105160
Section Code: 5-1
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
Index Terms: Plant analysis (insecticides extn. in); Insecticides (phosphorus-contg., extn. of, from plant)
CAS Registry Numbers: 121-75-5; 122-14-5; 732-11-6; 786-19-6; 2497-07-6; 2703-37-9 Role: PROC (Process) (extn. of, from plant) A new procedure for the extn. of organophosphorus insecticide residues from plants is described. The procedure is based on the elution with water-immiscible solvents of a homogeneous powdery mixt. of material blended with deactivated silica. The efficiency of the extn. was evaluated for 6 organophosphorus pesticides and metabolites on 12 crops using 32P-labeled compds. and non-labeled compds. In the latter case, gas. chromatog. and an enzymic colorimetric method were used for the detn. The recovery of the extn. was 95-100%. [on SciFinder (R)] 0340-4714 organophosphorus/ pesticide/ plant/ extn;/ insecticide/ organophosphorus/ plant/ extn

690. Krafsur, E. S. (1985). Age Composition and Seasonal Phenology of House-Fly Diptera Muscidae Populations. *J med entomol* 22: 515-523.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM MUSCA-DOMESTICA ORGANOPHOSPHORUS INSECTICIDE OVARIES EGG PRODUCTION
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: GENITALIA
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: GENITALIA/PHYSIOLOGY
MESH HEADINGS: GENITALIA/METABOLISM
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMALS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: DIPTERA
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Reproductive System-General
KEYWORDS: Reproductive System-Physiology and Biochemistry
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Animal Pests
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Diptera
LANGUAGE: eng

691. Kraft, B. J., Masuda, S., Kikuchi, J., Dragnea, V., Tollin, G., Zaleski, J. M., and Bauer, C. E. (Spectroscopic and Mutational Analysis of the Blue-Light Photoreceptor Appa: a Novel Photocycle Involving Flavin Stacking With an Aromatic Amino Acid. *Biochemistry. 2003, jun 10; 42(22):6726-34. [Biochemistry]: Biochemistry*.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: The flavoprotein AppA is a blue-light photoreceptor that functions as an antirepressor of photosynthesis gene expression in the purple bacterium Rhodobacter sphaeroides.

Heterologous expression studies show that FAD binds to a 156 amino acid N-terminal domain of AppA and that this domain is itself photoactive. A pulse of white light causes FAD absorption to be red shifted in a biphasic process with a fast phase occurring in < 1 micros and a slow phase occurring at approximately 5 ms. The absorbance shift was spontaneously restored over a 30 min period, also in a biphasic process as assayed by fluorescence quenching and electronic absorption analyses. Site-directed replacement of Tyr21 with Leu or Phe abolished the photochemical reaction implicating involvement of Tyr21 in the photocycle. Nuclear magnetic resonance analysis of wild-type and mutant proteins also indicates that Tyr21 forms pi-pi stacking interactions with the isoalloxazine ring of FAD. We propose that photochemical excitation of the flavin results in strengthening of a hydrogen bond between the flavin and Tyr 21 leading to a stable local conformational change in AppA.
MESH HEADINGS: Amino Acid Sequence
MESH HEADINGS: *Bacterial Proteins
MESH HEADINGS: Circular Dichroism
MESH HEADINGS: Flavin-Adenine Dinucleotide/*chemistry/metabolism
MESH HEADINGS: Flavoproteins/*chemistry/*genetics
MESH HEADINGS: Fluorescence
MESH HEADINGS: Magnetic Resonance Spectroscopy
MESH HEADINGS: Molecular Sequence Data
MESH HEADINGS: Mutagenesis, Site-Directed
MESH HEADINGS: Photochemistry
MESH HEADINGS: Photolysis
MESH HEADINGS: Protein Binding
MESH HEADINGS: Protein Structure, Tertiary
MESH HEADINGS: Sequence Alignment
MESH HEADINGS: Sequence Homology, Amino Acid
MESH HEADINGS: Spectrophotometry, Ultraviolet
MESH HEADINGS: Tyrosine/*chemistry/*genetics
LANGUAGE: eng

692. Kreuzig, R. , H&Ouml, and Ltge, S. (Investigations on the Fate of Sulfadiazine in Manured Soil: Laboratory Experiments and Test Plot Studies. *Environ toxicol chem. 2005, apr; 24(4):771-6. [Environmental toxicology and chemistry / setac]: Environ Toxicol Chem*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

ABSTRACT: The fate of 14C-labeled sulfadiazine (SDZ) in manured soil has been investigated in laboratory test systems. In the first approach, stability of 14C-SDZ in liquid bovine manure has been tested. Only 1% of the initially applied radiotracer was mineralized to 14C-carbon dioxide and 82% were transferred to nonextractable residues within a 102-d incubation period. Test slurries with defined aged residues were prepared and, supplementary to standard solutions, applied to silty-clay soil samples. These tests showed the high affinity of 14C-SDZ residues to the soil matrix. In the second approach, basic data on microbial, chemical, and photoinduced degradability in soil were gathered. The data indicated the formation of nonextractable residues as the predominant process in soil, which was accelerated by the test slurry application. In the third approach, laboratory lysimeter tests were conducted to investigate leaching and degradation as simultaneously occurring processes. The 14C-SDZ residues (64%) mainly were retained in the surface layer as nonextractable residues. Although a high mobility in soil was revealed by a soil/water distribution coefficient of 2 L kg(-1), percolate contamination amounted to only 3% of the initially applied 14C-SDZ. The tendencies of leaching and degradability in soil also were observed in test plot studies under field conditions.
MESH HEADINGS: Aluminum Silicates/analysis
MESH HEADINGS: Animals
MESH HEADINGS: Biodegradation, Environmental
MESH HEADINGS: Carbon Dioxide/chemistry
MESH HEADINGS: Carbon Radioisotopes/analysis
MESH HEADINGS: Cattle

MESH HEADINGS: Environmental Monitoring/*methods
MESH HEADINGS: Laboratory Techniques and Procedures
MESH HEADINGS: Manure/*analysis/radiation effects
MESH HEADINGS: Soil Pollutants/analysis/*metabolism/radiation effects
MESH HEADINGS: Sulfadiazine/analysis/*metabolism
MESH HEADINGS: Time Factors
MESH HEADINGS: Veterinary Medicine
MESH HEADINGS: Water/chemistry
LANGUAGE: eng

693. Krieger, Robert I., Keenan, James J., Li, Yanghong, Dinoff, Travis, and Vega, Helen (2006). Potential pine seed cone harvester pesticide exposures are probably not determined by dislodgeable foliar residues. *Abstracts of Papers, 232nd ACS National Meeting, San Francisco, CA, United States, Sept. 10-14, 2006* AGRO-119.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:856012
Document Type: Conference; Meeting Abstract; Computer Optical Disk
Language: written in English. Southern pine seed orchards are essential for establishment of pine forests. In 1998, 22,000 lb of seed was lost to coneworms and seedbugs in the South alone. Losses to insects of 50% are not uncommon. Azinephosmethyl and phosmet have been important in orchard IPM, but registration issues including worker exposure remained. This research sought a generic transfer coeff. (TC; cm2/h) for harvesters. Pyrethroid insecticides were advocated as replacement insecticides. Exposure, dislodgeable pine needle residues, and time worked were obtained. Needle residues were less than minimal reportable levels (.apprx. 0.05 mg/cm2) and became an unlikely source of harvester exposure. We biomonitored elimination of dimethyl- and dimethylthiophosphate AZM biomarkers in spot urine specimens of 13 harvesters from Texas and Louisiana who eliminated 0.1-5.3 mg AZM/kg bw-day (creatinine cor.). Unexposed controls were unavailable and low level biomarkers were probably contributed from diet and other environmental exposures. For regulatory purposes, follow-up studies will evaluate the low pesticide exposure potential of seed cone harvesting. [on SciFinder (R)]

694. Krijgsman, W. and Vandekamp, C. G. (Analysis of Organophosphorus Pesticides by Capillary Gas Chromatography With Flame Photometric Detection. *J. Chromatogr. 117(1): 201-205* 1976..
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. A method is presented for the analysis of organophosphorus pesticides using capillary gas chromatography with flame photometric detection. A Tracor Model 550 instrument, equipped with a flame photometric detector, was modified for capillary column operation. The gas chromatographic conditions were: Pyrex, length 50 m, I.D. 0.35 mm; phase, SE-30 (GC grade). Restriction coil: stainless steel, length 1.40 m, I.D. 0.25 mm. Temperatures: oven, 200DEG and 240DEG ; detector, 210DEG . Gas flows: carrier gas (helium) 4 ml/min; splitting gas (helium) 24 ml/min; detector, hydrogen 200 ml/min, air 80 ml/min, oxygen 10 ml/min; purge gas (nitrogen) 60 ml/min. Injection: 1 mul of mixtures of the organophosphorus pesticides in acetone-light petroleum were injected through a septum on to the column. Retention times of pesticides relative to parathion are given for: trichlorfon, TEPP, naled, dichlorvos, mevinphos, heptenophos, zinophos, omethoate, prophos, bidrin, sulfotep, butonate, dimethoate, thiometon, AC 92.100, diazinon cyanthoate, dyfonate, disulfoton, formothion, dichlofenthion, parathion methyl, phosphamidon, prothoate, fenchlorphos, fenitrothion, pirimiphos methyl, malathion, dursban, parathion, bromophos, pirimithate, trichloronate, mecarbam, Bay 77049, chlorfenvinphos, fenthoate, ciodrin, supracide, vamidothion, Bay 77488, tetrachlorvinphos, bromophos ethyl, plondrel, triamyphos, ethion, triazophos, carbophenothion, menazon, imidan, phencapton, EPN, azinphos methyl, phosalone, azinphos ethyl, W 11099, dialifor, coumaphos, and abate. The detection limit for the phosphorus esters with a relative retention time of about 1 in the programmed mode is about 100 pg.

695. Kugler, M., Loeffler, W., Rapp, C., Kern, A., and Jung, G. (Rhizocticin a, an Antifungal Phosphono-Oligopeptide of Bacillus Subtilis Atcc 6633: Biological Properties. *Arch microbiol. 1990; 153(3):276-81. [Archives of microbiology]: Arch Microbiol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: Rhizocticin A, the main component of the antifungal, hydrophilic phosphono-oligopeptides of Bacillus subtilis ATCC 6633, was used for sensitivity testing and experiments into the molecular mechanism of the antibiotic action. Budding and filamentous fungi as well as the cultivated nematode Caenorhabditis elegans were found to be sensitive, whereas bacteria and the protozoon Paramecium caudatum were insensitive. Rhizoctonia solani was inhibited in agar dilution tests but not in diffusion tests. The antifungal effect of rhizocticin A was neutralized by a variety of amino acids and oligopeptides. Oligopeptide influence was mainly understood as transport antagonism, and it was concluded that the antibiotic enters the recipient cell via the peptide transport system. L- and D-cystine were also identified as potent, general antagonists of the oligopeptide transport. The rhizocticin-antagonism of four other amino acids was taken as a clue to the site of action. Provided that rhizocticin A is split by peptidases of the target cell into inactive L-arginine and toxic L-2-amino-5-phosphono-3-cis-pentenoic acid (L-APPA), the latter may interfere with the threonine or threonine-related metabolism.
MESH HEADINGS: Amino Acids/antagonists &amp
MESH HEADINGS: inhibitors/pharmacology
MESH HEADINGS: Animals
MESH HEADINGS: Antibiotics, Antifungal/antagonists &amp
MESH HEADINGS: inhibitors/*pharmacology
MESH HEADINGS: Bacillus subtilis/*metabolism
MESH HEADINGS: Bacteria/drug effects
MESH HEADINGS: Fermentation
MESH HEADINGS: Fungi/*drug effects
MESH HEADINGS: Molecular Structure
MESH HEADINGS: Nematoda/drug effects
MESH HEADINGS: Oligopeptides/pharmacology
MESH HEADINGS: Organophosphorus Compounds/antagonists &amp
MESH HEADINGS: inhibitors/pharmacology
MESH HEADINGS: Protozoa/drug effects
LANGUAGE: eng

696. Kull', A. K. (Effects of Phthalophos in Chicken Embryos. *Veterinariya (moscow) 9: 104-106; 1975.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The embryotoxic and teratogenic action of phthalophos was studied in chicken embryos. Phthalophos in physiological solution was introduced into the amniotic cavity of 10 day-old embryos in doses of 6, 63, and 635 mg, or into the yolk sac of 7-8 day-old embryos in doses of 3, 317.5, or 635 mg. The overall mortality, indicating the embryotoxic effect of phthalophos, was 22.6-52.8%, and the incidence of teratogenic changes was 1.4-6.8%. The mortality rate was 15.6-45.7% after the introduction of physiological saline solution alone, and 15.6-45.7% spontaneous mortality was observed in the control group. The incidence of spontaneous teratogenic changes was 1.1-1.2% in the control group. The teratogenic effect of phthalophos was most pronounced on the mesodermal formations (extremities and abdominal wall), and weakest on the ectodermal formations, such as the brain, eyes, and bill.
LANGUAGE: rus

697. Kundiev, Y. I., Karakashyan, A. M., and Chusova, V. N. (1993). Effects of Pesticides and Other Adverse Factors in Agriculture on the Female Reproductive System an Epidemiological Study. *Richardson, m. (Ed.). Reproductive toxicology. Xix+286p. Vch verlagsgesellschaft mbh: weinheim, germany* Vch publishers, inc.: New york, new york, usa. Isbn 3-527-28561-x; isbn 1-

56081-737-2.; 0: 155-166.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER HUMAN OCCUPATIONAL EXPOSURE MH - BIOCHEMISTRY
MESH HEADINGS: GENITALIA/PATHOLOGY
MESH HEADINGS: GENITALIA/PHYSIOPATHOLOGY
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: MORBIDITY
MESH HEADINGS: NEOPLASMS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Biochemical Studies-General
KEYWORDS: Reproductive System-Pathology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Public Health: Epidemiology-Organic Diseases and Neoplasms
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

698. Kurinniy, A. I. (1975). Comparative Investigation of Cytogenetic Effect of Certain Organophosphorus Pesticides. *Sov.Genet.* 11: 64-69 (RUS) (ENG ABS).
Chem Codes: EcoReference No.: 37611
Chemical of Concern: PPHD,PSM Rejection Code: NON-ENGLISH.

699. Kurinny&#301 and Ai ([A Comparative Study of the Cytogenetic Effect of a Series of Phosphoorganic Pesticides]. *Genetika. 1975; 11(12):64-9. [Genetika]: Genetika*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: A comparative study of the effect of 12 organophosphorus pesticides on mice was carried out. A statistically significant increase of the frequency of aberrant metaphases in bone-marrow cells of mice was induced by dipterex, metaphos, phosphamidon and imidan. No correlation between the toxicity and the mutagenic activity of the compounds studied was observed. The pesticides studied can be regarded as substances with a slight cytogenetic activity with respect to animals.
MESH HEADINGS: Animals
MESH HEADINGS: *Bone Marrow
MESH HEADINGS: *Bone Marrow Cells
MESH HEADINGS: *Chromosome Aberrations
MESH HEADINGS: Insecticides/*toxicity
MESH HEADINGS: Male
MESH HEADINGS: Mice
MESH HEADINGS: *Organophosphorus Compounds
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Sravnitel'noe izuchenie deĭstviia riada fosfororganicheskikh pestitsidov

700. Kurinny&#301, Ai, and Pilinskaia, M. A. ([Cytogenetic Activity of the Pesticides Phthalophos, Chlorophos and Gardona in a Culture of Human Lymphocytes]. *Genetika. 1977; 13(2):337-9. [Genetika]: Genetika*.

Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: The cytogenetic action of three phosphoorganic pesticides, imidan, dipterex and gardona, in cultured human lymphocytes is studied. It is found that all the sunstances induce the signficant increase in the frequency of metaphases with chromosomes aberrations as compared with the control level. Maximal effects in vitro qere 6,0; 4,8 and 4,0% of aberrant cells for imidan, dipterex and gardona respectively. All investigated substances had a weak mutagenic activity in human lymphocyte culture.
MESH HEADINGS: Adult
MESH HEADINGS: Cells, Cultured
MESH HEADINGS: *Chromosome Aberrations
MESH HEADINGS: Humans
MESH HEADINGS: Insecticides/*toxicity
MESH HEADINGS: Male
MESH HEADINGS: Phosmet/*toxicity
MESH HEADINGS: Tetrachlorvinphos/*toxicity
MESH HEADINGS: Trichlorfon/*toxicity
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Tsitogeneticheskaia aktivnost' pestitsidov ftalofosa, khlorofosa i gardony v kul'ture limfotsitov cheloveka.

701. Kuul', A. K. (Diagnosis of Phthalophos Poisoning in Animals. *Veterinariya (moscow) 12: 103-104; 1975.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The toxicity of phthalophos (phosmet) was studied in rabbits and chickens fed 50-600 mg/kg doses. The toxic effect of phthalophos manifested itself in functional disturbance of the sympathetic nervous system (miosis, bronchial spasm, sialorrhea, tremor, spasma, areflexia, diarrhea, asphyxia), dehydration, thickening of the blood, and extensive reduction of the acetylcholinesterase and Na,K-ATPase activities. The pathomorphological examination revealed hemodynamic, dystrophic and inflammatory-necrotic changes. The above symptoms as well as the determination of pthalophos in the gastric content and organs are pathognomonic.
LANGUAGE: rus

702. Kuul', A. K. ([Diagnosis of the Poisoning of Animals With Phthalophos]. *Veterinariia. 1975, dec(12):103-4. [Veterinariia]: Veterinariia.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Chickens
MESH HEADINGS: Insecticides/*poisoning
MESH HEADINGS: *Organophosphorus Compounds
MESH HEADINGS: Poultry Diseases/*diagnosis
MESH HEADINGS: Rabbits
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Diagnostika otravleniia zhivotnykh ftalofosom

703. Kuul', A. K. ([Effect of Phthalophos on Chick Embryos]. *Veterinariia. 1975, sep(9):104-6. [Veterinariia]: Veterinariia.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Abnormalities, Drug-Induced/pathology
MESH HEADINGS: Animals
MESH HEADINGS: Chick Embryo/*drug effects
MESH HEADINGS: Dose-Response Relationship, Drug
MESH HEADINGS: Insecticides/*toxicity

MESH HEADINGS: Phosmet/*toxicity
MESH HEADINGS: Time Factors
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Vliianie ftalofosa na kurinye émbriony

704. Kuul', A. K. (Treating Animals for Acute Phthalophos Poisoning. *Veterinariya (moscow) (5): 98-99; 1976.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The efficacy of antidote therapy was studied in Chinchilla rabbits and in hens poisoned with LD100 doses of phthalophos (160 mg/kg for rabbits, 600 mg/kg for hens), administered orally in aqueous suspension. The antidotes were administered i.m. immediately after the manifestation of the poisoning symptoms. The rabbits received tropacine and atropine (5 mg/kg each), dipyroxime (10 mg/kg), and isonitrosine (20 mg/kg, 1-5 times during the first day, then once daily). All untreated rabbits died in 20-60 min. The antidote therapy had 100% efficiency, the therapeutic effect manifested itself in 5-10 min. The hens received one to two doses of atropine (5 mg/kg), tropacine and dipyroxime (10 mg/kg each), and isonitrosine (20 mg/kg). The antidote therapy was ineffective in all hens; the untreated animals died 1-3 hr after poisoning, the treated ones 2-3 hr later.
LANGUAGE: rus

705. Kuul', A. K. ([Treatment of Acute Phthalophos Poisoning in Animals]. *Veterinariia. 1976, may(5):98-9. [Veterinariia]: Veterinariia*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Acute Disease
MESH HEADINGS: Animals
MESH HEADINGS: Antidotes/therapeutic use
MESH HEADINGS: Chickens
MESH HEADINGS: Drug Evaluation, Preclinical
MESH HEADINGS: Insecticides/*poisoning
MESH HEADINGS: *Organophosphorus Compounds
MESH HEADINGS: Poisoning/drug therapy
MESH HEADINGS: Rabbits
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Lechenie pri ostrom otravlenii zivotnykh ftalofosom

706. Kuz'menko, N. M., Didenko, G. G., Kurinnyi, A. I., Martson', L. V., Petrovskaia, O. G., Pilinskaia, M. A., and Shepel'skaia, N. R. (Otdalennye Posledstviia Pri Deistvii Pestitsidov. [Long-Term Effects of Pesticides.]. *Gig. Sanit. 45(9): 88-89 1980 (30 references)* .
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ABSTRACT: PESTAB. Cytogenetic methods were employed for comparative evaluation of the mutagenic activity of 23 pesticides. Increased frequency of chromosome aberrations in bone marrow cells was recorded after administration to mice of high doses of tetramethylthiuramdisulfide (TMTD; thiram), ziram, Yalan (molinate), chlorophos (trichlorfon), phthalophos (phosmet), metaphos (methyl parathion), Valexon (phoxim), phosphamide (dimethoate) and 2,4-D. A number of derivatives of carbamic, thio-, and dithiocarbamic acids, urea derivatives, and hydrazine derivatives showed carcinogenic activity. Dithiocarbamate pesticides were found to pass across the placenta and cause embryotoxic and gonadotoxic effects. Teratogenic activity was recorded for derivatives of chlorophenoxyacetic acid.
LANGUAGE: rus

707. Laabs, V., Amelung, W., Pinto, A., Altstaedt, A., and Zech, W. (Leaching and Degradation of Corn and Soybean Pesticides in an Oxisol of the Brazilian Cerrados. *Chemosphere. 2000, nov; 41(9):1441-9. [Chemosphere]: Chemosphere*.

Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Pesticide pollution of ground and surface water is of growing concern in tropical countries. The objective of this pilot study was to evaluate the leaching potential of eight pesticides in a Brazilian Oxisol. In a field experiment near Cuiabá, Mato Grosso, atrazine, chlorpyrifos, lambda-cyhalothrin, endosulfane alpha, metolachlor, monocrotofos, simazine, and trifluraline were applied onto a Typic Haplustox. Dissipation in the topsoil, mobility within the soil profile and leaching of pesticides were studied for a period of 28 days after application. The dissipation half-life of pesticides in the topsoil ranged from 0.9 to 14 d for trifluraline and metolachlor, respectively. Dissipation curves were described by exponential functions for polar pesticides (atrazine, metolachlor, monocrotofos, simazine) and bi-exponential ones for apolar substances (chlorpyrifos, lambda-cyhalothrin, endosulfane alpha, trifluraline). Atrazine, simazine and metolachlor were moderately leached beyond 15 cm soil depth, whereas all other compounds remained within the top 15 cm of the soil. In lysimeter percolates (at 35 cm soil depth), 0.8-2.0% of the applied amounts of atrazine, simazine, and metolachlor were measured within 28 days after application. Of the other compounds less than 0.03% of the applied amounts was detected in the soil water percolates. The relative contamination potentials of pesticides, according to the lysimeter study, were ranked as follows: metolachlor > atrazine = simazine >> monocrotofos > endsulfane alpha > chlorpyrifos > trifluraline > lambda-cyhalothrin. This order of the pesticides was also achieved by ranking them according to their effective sorption coefficient Ke, which is the ratio of Koc to field-dissipation half-life.
MESH HEADINGS: Acetamides/chemistry
MESH HEADINGS: Atrazine/chemistry
MESH HEADINGS: Biodegradation, Environmental
MESH HEADINGS: Brazil
MESH HEADINGS: Chemistry, Physical
MESH HEADINGS: Chlorpyrifos/chemistry
MESH HEADINGS: Endosulfan/chemistry
MESH HEADINGS: Half-Life
MESH HEADINGS: Monocrotophos/chemistry
MESH HEADINGS: Nitriles
MESH HEADINGS: Pesticides/analysis/*chemistry
MESH HEADINGS: Pyrethrins/chemistry
MESH HEADINGS: Simazine/chemistry
MESH HEADINGS: Soil/*analysis
MESH HEADINGS: *Soybeans
MESH HEADINGS: Trifluralin/chemistry
MESH HEADINGS: Tropical Climate
MESH HEADINGS: Water Pollution
MESH HEADINGS: *Zea mays
LANGUAGE: eng

708. Laabs, V., Amelung, W., Pinto, A., and Zech, W. (Fate of Pesticides in Tropical Soils of Brazil Under Field Conditions. *J environ qual. 2002 jan-feb; 31(1):256-68. [Journal of environmental quality]: J Environ Qual*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: The potential of pesticides for nonpoint ground water pollution depends on their dissipation and leaching behavior in soils. We investigated the fate of 10 pesticides in two tropical soils of contrasting texture in the Brazilian Cerrado region near Cuiabá during an 80-d period, employing topsoil dissipation studies, soil core analyses, and lysimeter experiments. Dissipation of pesticides was rapid, with field half-lives ranging from 0.8 to 20 d in Ustox and 0.6 to 11.8 d in Psamments soils. Soil core analyses showed progressive leaching of polar pesticides in Psamments, whereas in Ustox pesticides were rapidly transported to 40 cm soil depth regardless of their sorption properties, suggesting that leaching was caused by preferential flow. In lysimeter experiments (35 cm soil depth), cumulative leaching was generally low, with < or = 0.02% and

< or = 0.19% of the applied amounts leached in Ustox and Psamments, respectively. In both soils, all pesticides but the pyrethroids were detected in percolate at 35 cm soil depth within the first 6 d after application. Cumulative efflux and mean concentrations of pesticides in percolate were dosely correlated with their Groundwater Ubiquity Score (GUS). The presence of alachlor (2-chloro-2', 6'-diethyl-N-methoxymethylacetanilide), atrazine (2-chloro-4-ethylamino-6-isopropylamino-1,3,5-triazine), metolachlor [2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)acetamide], simazine [2-chloro-4,6-bis(ethylamino)-1,3,5-triazine], and trifluralin (2,6-dinitro-N,N-dipropyl-4-trifluoromethylaniline) throughout the soil profile and in percolate of wick lysimeters at 95 cm soil depth indicated that a nonpoint pollution of ground water resources in tropical Brazil cannot be ruled out for these substances.
MESH HEADINGS: Agriculture
MESH HEADINGS: Brazil
MESH HEADINGS: *Environmental Monitoring
MESH HEADINGS: Pesticides/analysis/*metabolism
MESH HEADINGS: Soil Pollutants/analysis/*metabolism
MESH HEADINGS: Tropical Climate
MESH HEADINGS: Water Movements
MESH HEADINGS: Water Pollutants, Chemical/*analysis
LANGUAGE: eng

709. Laan, W., Van Der Horst, M. A., Van Stokkum, I. H., and Hellingwerf, K. J. (Initial Characterization of the Primary Photochemistry of Appa, a Blue-Light-Using Flavin Adenine Dinucleotide-Domain Containing Transcriptional Antirepressor Protein From Rhodobacter Sphaeroides: a Key Role for Reversible Intramolecular Proton Transfer From the Flavin Adenine Dinucleotide Chromophore to a Conserved Tyrosine? *Photochem photobiol. 2003, sep; 78(3):290-7. [Photochemistry and photobiology]: Photochem Photobiol*.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA, CHEM METHODS.

ABSTRACT: The flavin adenine dinucleotide (FAD)-containing photoreceptor protein AppA (in which the FAD is bound to a novel so-called BLUF domain) from the purple nonsulfur bacterium Rhodobacter sphaeroides was previously shown to be photoactive by the formation of a slightly redshifted long-lived intermediate that is thought to be the signaling state. In this study, we provide further characterization of the primary photochemistry of this photoreceptor protein using UV-Vis and Fourier-transform infrared spectroscopy, pH measurements and site-directed mutagenesis. Available evidence indicates that the FAD chromophore of AppA may be protonated in the receptor state, and that it becomes exposed to solvent in the signaling state. Furthermore, experimental data lead to the suggestion that intramolecular proton transfer (that may involve [anionic] Tyr-17) forms the basis for the stabilization of the signaling state.
MESH HEADINGS: Amino Acid Sequence
MESH HEADINGS: Base Sequence
MESH HEADINGS: DNA Primers
MESH HEADINGS: Dinucleoside Phosphates/*chemistry/genetics
MESH HEADINGS: Light
MESH HEADINGS: Molecular Sequence Data
MESH HEADINGS: Mutagenesis, Site-Directed
MESH HEADINGS: *Photochemistry
MESH HEADINGS: Protons
MESH HEADINGS: Rhodobacter sphaeroides/*chemistry
MESH HEADINGS: Sequence Homology, Amino Acid
MESH HEADINGS: Sequence Homology, Nucleic Acid
MESH HEADINGS: Spectrophotometry, Ultraviolet
MESH HEADINGS: Spectroscopy, Fourier Transform Infrared
MESH HEADINGS: Trans-Activators/*chemistry
MESH HEADINGS: Tyrosine/*chemistry
LANGUAGE: eng

710. Labaw, L. W. and Rall, J. E. (1968). The crystal packing of thyroglobulin. *Journal of Molecular Biology* 36: 25-26.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The molecular packing in 19 s thyroglobulin crystals has been examined using shadowed, positively stained and negatively stained preparations. Crystallizing thyroglobulin molecules first form polymers which are right-handed helices with an average pitch of 228 A having four molecules per turn. The molecular shape appears to be approximately a sphere of 114 A diameter or a prolate ellipsoid of comparable volume. The three-dimensional packing of the helices can be described by an octamolecular orthorhombic unit cell having sides of 395, 228 and 197 A.
http://www.sciencedirect.com/science/article/B6WK7-4DM0XGW-2V/2/380b960dcc32fc03b4e9ebe17bb8fcc3

711. Label, G. L., Williams, D. T., Griffith, G., and Benoit, F. M. (Isolation and Concentration of Organophosphorus Pesticides From Drinking Water at the Ng/L Level, Macroreticular Resin. *J. Assoc. Off. Anal. Chem. 62(2): 241-249 1979 (22 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. A screening method has been developed for determining organophosphorus pesticides at ng/l levels in drinking water. Sixteen organophosphorus pesticides, diazinon, diazinon-oxon, dimethoate, ronnel, beta-phosphamidon, methyl parathion, parathion, malathion, chlorpyrifos, fenitrothion, Reulene (crufomate), methidathion, ethion, EPN, phosphalone, and phosmet, were extracted by Amberlite XAD-2 resin from 100 and 200 l drinking water previously spiked with these pesticides. The pesticides were eluted from the XAD-2 resin with acetone-hexane (15+85). The concentrated extract was analyzed by gas chromatography using a nitrogen-phoshorus selective detector and by gas chromatography mass spectrometry using selection ion monitoring. Recoveries at the 10 and 100 ng/l spiking levels were greater than 90%, except recoveries for dimethoate and phosphamidon were 37 and 42%, respectively. The analysis of 300 l of Ottawa tap water showed no detectable amounts (< 1 ng/l) of any of the 16 organophbosphorus pesticides. (Author abstract by permission)

712. Lacassie, E., Dreyfuss, M.-F., Daguet, J. L., Vignaud, M., Marquet, P., and Lachatre, G (1999). Liquid chromatography-electrospray mass spectrometry multi-residue determination of pesticides in apples and pears. *Journal of Chromatography, A* 830: 135-143.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1999:87374
Chemical Abstracts Number: CAN 130:236634
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (liq. chromatog. combined with, electrospray; liq. chromatog.-electrospray mass spectrometry multi-residue detn. of pesticides in apples and pears); Apple; Food analysis; Food contamination; Fruit; Pear; Pesticides (liq. chromatog.-electrospray mass spectrometry multi-residue detn. of pesticides in apples and pears); Liquid chromatography (mass spectrometry combined with, electrospray; liq. chromatog.-electrospray mass spectrometry multi-residue detn. of pesticides in apples and pears)
CAS Registry Numbers: 60-51-5 (Dimethoate); 148-79-8 (Thiabendazole); 732-11-6 (Phosmet); 10605-21-7 (Carbendazim); 14255-87-9 (Parbendazole); 23103-98-2 (Pirimicarb); 23564-05-8 (Methylthiophanate); 72490-01-8 (Fenoxycarb) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (liq. chromatog.-electrospray mass spectrometry multi-residue detn. of pesticides in apples and pears)
Citations: 1) Anon; Journal Officiel de la Republique Francaise 1996, 17689

Citations: 2) Anon; European Community, rules EC No 95-61 1995
Citations: 3) FaoWho; Pesticide residues in food Evaluations 1994, 131/1, 131/2
Citations: 4) Lacassie, E; J Chromatogr A 1998, 805, 319
Citations: 5) Liska, I; J Chromatogr A 1996, 733, 235
Citations: 6) Sherma, J; J AOAC Int 1997, 80, 283
Citations: 7) Arenas, R; J Chromatogr A 1995, 78, 1455
Citations: 8) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 9) Lindgren, B; J AOAC Int 1995, 78, 841
Citations: 10) Levsen, K; Org Mass Spectrom 1988, 23, 406
Citations: 11) Rosen, J; Application of New Mass Spectrometric Techniques in Pesticide Chemistry 1987, 1
Citations: 12) Kim, I; J Agric Food Chem 1990, 38, 1223
Citations: 13) Molina, C; J Chromatogr A 1996, 737, 47
Citations: 14) Newsome, W; J AOAC Int 1995, 78, 1312
Citations: 15) Liu, C; J Agric Food Chem 1991, 39, 718
Citations: 16) Barcelo, D; Emerging Strategies for Pesticides Analysis 1992, 13, 288
Citations: 17) Brown, M; Liquid Chromatography-Mass Spectrometry Applications in Agricultural, Pharmaceutical and Environmental Chemistry (American Chemistry Series No 420) 1990
Citations: 18) Volmer, D; LC GC 1996, 14, 236
Citations: 19) Volmer, D; LC GC 1996, 14, 216
Citations: 20) Careri, M; J Chromatogr A 1996, 727, 153
Citations: 21) Nagami, H; Bull Environ Contam Toxicol 1997, 58, 53
Citations: 22) Pang, J; J AOAC Int 1995, 78, 1474
Citations: 23) Fodor-Csorba, K; J Chromatogr 1992, 624, 353
Citations: 24) Shenck, F; J AOAC Int 1996, 79, 1454
Citations: 25) Holland, P; Emerging Strategies for Pesticides Analysis 1992, 4, 81
Citations: 26) Luke, M; Analytical Methods for Pesticides and Plants Growth Regulators 1986, 15, 161
Citations: 27) Food And Agriculture Organization; Codex Alimentarus Commission CAC/PRG, Guide to codex Recommendations Concerning Pesticides Residues, Part 6 1984
Citations: 28) Specht, W; Fresesius J Anal Chem 1995, 353, 1783
Citations: 29) Sannino, A; Food Chem 1995, 52, 57
Citations: 30) Gilvydis, D; J Assoc Off Anal Chem 1990, 73, 753
Citations: 31) Bruins, A; Anal Chem 1987, 59, 2642
Citations: 32) Kebarle, P; Anal Chem 1987, 65, 972A
Citations: 33) Hopfgartner, G; J Chromatogr 1993, 647, 51 This paper describes a rapid, specific and sensitive multi-residue method for the routine quant. anal. of pesticides of several classes used for the treatment of apples and pears, down to their resp. max. residue limits (MRLs). It involves a rapid extn. procedure and liq. chromatog. coupled to electrospray mass selective detection. Seven pesticides were extd. at pH 4.5 with a mixt. of acetone-dichloromethane-hexane (50:20:30, vol./vol./vol.). Ionization was performed at atm. pressure in an electrospray-type source and detection was carried out using the selected ion monitoring mode. Extn. recoveries were between 55 and 98% except for methylthiophanate (<20%). Limits of detection and limits of quantitation (LOQs) ranged, resp., from 0.01 to 0.02 mg/kg and from 0.02 to 0.05 mg/kg, with relative std. deviation (R.S.D.) <19%. An excellent linearity was obsd. for LOQs up to 5 mg/kg. Intermediate (\"inter-assay\") precision and accuracy were satisfactory. The method was applied to many fruit samples intended for commercialization. [on SciFinder (R)] 0021-9673 pesticide/ residue/ detection/ apple/ pear

713. Lacassie, E., Dreyfuss, M.-F., Gaulier, J. M., Marquet, P., Daguet, J. L., and Lachatre, G (2001). Multiresidue determination method for organophosphorus pesticides in serum and whole blood by gas chromatography-mass-selective detection. *Journal of Chromatography, B: Biomedical Sciences and Applications* 759: 109-116.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:467189
Chemical Abstracts Number: CAN 135:88087
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; multiresidue detn. method for organophosphorus pesticides in serum and whole blood by GC-MS); Gas chromatography (mass spectrometry combined with; multiresidue detn. method for organophosphorus pesticides in serum and whole blood by GC-MS); Blood analysis (multiresidue detn. method for organophosphorus pesticides in serum and whole blood by GC-MS); Pesticides (organophosphorus; multiresidue detn. method for organophosphorus pesticides in serum and whole blood by GC-MS)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (parathion-ethyl); 56-72-4 (Coumafos); 60-51-5 (Dimethoate); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 122-14-5; 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 563-12-2 (Ethion); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 2104-96-3 (Bromophos-methyl); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2642-71-9 (azinphos-ethyl); 2921-88-2 (Chlorpyrifos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 7786-34-7 (Mevinphos); 13071-79-9 (Terbuphos); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 22224-92-6 (Phenamiphos); 23505-41-1 (pirimiphos-ethyl); 25311-71-1 (Isophenphos); 29232-93-7 (Pirimiphos-methyl); 95465-99-9 (Cadusafos) Role: ANT (Analyte), ANST (Analytical study) (multiresidue detn. method for organophosphorus pesticides in serum and whole blood by GC-MS)
Citations: 1) Vazilic, Z; Chem-Biol Interact 1999, 119-120, 479
Citations: 2) Eskanazi, B; Environ Health Perspect 1999, 107, 409
Citations: 3) Clegg, D; J Toxicol Environ Health B Crit Rev 1999, 2(3), 257
Citations: 4) Lifshitz, M; Pediatr Emerg Care 1999, 15(2), 102
Citations: 5) Barr, D; Toxicol Ind Health 1999, 15(1-2), 168
Citations: 6) Kutz, F; J Toxicol Environ Health 1992, 37, 277
Citations: 7) Fengsheng, H; Int Arch Occup Environ Health 1993, 65, 569
Citations: 8) Richardson, E; J Agric Food Chem 1993, 41, 416
Citations: 9) Arrebola, F; Anal Chem Acta 1999, 401, 45
Citations: 10) Vidal, J; J Chromatogr B 1998, 719, 71
Citations: 11) Musshoff, F; Clin Chem Lab Med 1999, 37(6), 639
Citations: 12) Itoh, H; J Chromatogr A 1996, 754, 61
Citations: 13) Baselt, R; Advances in Analytical Toxicology 1984, 1, 255
Citations: 14) Zief, M; Solid Phase Extraction For Sample Perparation 1988
Citations: 15) Lacassie, E; J Chromatogr A 1999, 830, 135
Citations: 16) Lacassie, E; J Chromatogr A 1998, 805, 319
Citations: 17) Dreyfuss, M; Analusis 1994, 22, 273
Citations: 18) Chen, X; J Anal Toxicol 1992, 16, 351 This paper describes a rapid, specific and sensitive method for the detn. of 29 organophosphorus pesticides in blood and serum, involving a rapid solid-phase extn. procedure using Oasis HLB cartridges and gas chromatog. coupled to mass-selective detection. The ionization was performed by electron Impact and acquisition in the single ion monitoring mode followed 3 specific ions per analyte. Extn. recoveries were satisfactory and ranged between 40 and 108% in blood and serum. Limits of detection ranged from 5 to 25 ng/mL and limits of quantitation (LOQs) ranged from 10 to 50 ng/mL, in blood and serum. An excellent linearity was obsd. from these LOQs up to 1000 ng/mL. Intra- and inter-assay precision and accuracy were satisfactory for most of the pesticides analyzed. [on SciFinder (R)] 0378-4347 organophosphorus/ pesticide/ GC/ MS/ blood/ analysis

714. Lacassie, E., Marquet, P., Gaulier, J.-M., Dreyfuss, M.-F., and Lachatre, G (2001). Sensitive and specific multiresidue methods for the determination of pesticides of various classes in clinical and forensic toxicology. *Forensic Science International* 121: 116-125 .

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2001:609495
Chemical Abstracts Number: CAN 136:65351
Section Code: 4-2
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; sensitive and specific multiresidue methods for detn. of pesticides of various classes in clin. and forensic toxicol.); Mass spectrometry (liq. chromatog. combined with, ion spray; sensitive and specific multiresidue methods for detn. of pesticides of various classes in clin. and forensic toxicol.); Liquid chromatography (mass spectrometry combined with, ion spray; sensitive and specific multiresidue methods for detn. of pesticides of various classes in clin. and forensic toxicol.); Gas chromatography (mass spectrometry combined with; sensitive and specific multiresidue methods for detn. of pesticides of various classes in clin. and forensic toxicol.); Blood analysis; Forensic analysis; Pesticides (sensitive and specific multiresidue methods for detn. of pesticides of various classes in clin. and forensic toxicol.); Extraction (solid-phase; sensitive and specific multiresidue methods for detn. of pesticides of various classes in clin. and forensic toxicol.)
CAS Registry Numbers: 50-29-3 (DDT); 55-38-9 (Fenthion); 56-38-2 (Parathion-ethyl); 56-72-4 (Coumafos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-55-9 (DDE); 76-44-8 (Heptachlor); 86-50-0 (Azinphos-methyl); 101-21-3 (Chlorpropham); 116-06-3 (Aldicarb); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-42-9 (Propham); 133-06-2 (Captan); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 563-12-2 (Ethion); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 959-98-8; 1031-07-8 (Endosulfan sulfate); 1563-66-2 (Carbofuran); 1912-24-9 (Atrazine); 2032-65-7 (Methiocarb); 2104-96-3 (Bromophos-methyl); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 7786-34-7 (Mevinphos); 10605-21-7 (Carbendazim); 13071-79-9 (Terbuphos); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 22224-92-6 (Phenamiphos); 22259-30-9 (Formetanate); 23103-98-2 (Pirimicarb); 23505-41-1 (Pirimiphos-ethyl); 23564-05-8 (Thiophanate-methyl); 25311-71-1 (Isophenphos); 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 33213-65-9; 51218-45-2 (Metolachlor); 72490-01-8 (Fenoxycarb); 82657-04-3 (Bifenthrin); 95465-99-9 (Cadusafos) Role: ANT (Analyte), ANST (Analytical study) (sensitive and specific multiresidue methods for detn. of pesticides of various classes in clin. and forensic toxicol.)
Citations: 1) Kaloyanova, F; Human Toxicology of Pesticides 1991, 3
Citations: 2) Watanabee, S; Tohoku J Exp Med 1972, 107, 301
Citations: 3) Lifshitz, M; Pediatr Emerg Care 1999, 15(2), 102
Citations: 4) Gossel, T; Principles of Clinical Toxicology, 3rd Edition 1994, 147
Citations: 5) Barr, D; Toxicol Ind Health 1999, 15(1/2), 168
Citations: 6) He, F; Int Arch Occup Environ Health 1993, 65, 569
Citations: 7) Demeter, J; J Anal Toxicol 1978, 2, 68
Citations: 8) Sharma, V; For Sci Int 1990, 48, 21
Citations: 9) Futagami, K; J Chromatogr B Biomed Sci Appl 1997, 704, 369
Citations: 10) Kojima, T; For Sci Int 1990, 48, 79
Citations: 11) Musshoff, F; Clin Chem Lab Med 1999, 37(6), 639
Citations: 12) Vasilic, Z; Chem-Biol Interactions 1999, 119, 479
Citations: 13) Kawasaki, S; J Chromatogr 1992, 595(1/2), 193
Citations: 14) Itoh, H; J Chromatogr A 1996, 754, 61
Citations: 15) Blanco-Coronado, J; Clin Toxicol 1992, 30(4), 575
Citations: 16) Bernardelli, B; J For Sci 1987, 32(4), 1109

Citations: 17) Waliiszewski, S; Bull Environ Contam Toxicol 1991, 46, 803
Citations: 18) Grimmett, W; Clin Toxicol 1996, 34(4), 447
Citations: 19) Coutselinis, A; For Sci 1978, 11, 75
Citations: 20) Sood, A; Indian J Med Sci 1994, 48, 68
Citations: 21) Garnier, R; Clin Toxicol 1995, 33(4), 375
Citations: 22) Garcia-Repetto, R; Vet Hum Toxicol 1998, 40(3), 166
Citations: 23) Sancewicz-Pach, K; Przegl Lek 1997, 54(10), 741
Citations: 24) Iwata, Y; J Agric Food Chem 1983, 31(6), 1131
Citations: 25) Dreisbach, R; Handbook of Poisoning 1982
Citations: 26) de Bleecker, J; Vet Hum Toxicol 1998, 40(6), 349
Citations: 27) Hamen, J; Acta Clin Belg Suppl 1999, 1, 54
Citations: 28) Ohberg, A; Br J Psychiatry 1995, 166, 35
Citations: 29) Burgess, J; Arch Int Med 1994, 154(2), 221
Citations: 30) Lifshitz, M; Pediatrics 1994, 93(4), 652
Citations: 31) Anon; Mortality and Mortal Weekly Report, MMWR, Morb Mortal Wkly Rep 1999, 48(13), 269
Citations: 32) Covaci, A; J Anal Toxicol 1999, 23(4), 290
Citations: 33) Chen, X; J Anal Toxicol 1992, 16, 351
Citations: 34) Perruzi, M; J Chromatogr A 2000, 867, 169
Citations: 35) Yinon, J; Forensic Mass Spectrometry 1991, 74
Citations: 36) Mariani, G; Int J Environ Anal Chem 1995, 58, 67
Citations: 37) Yang, P; J Toxicol Clin Toxicol 2000, 38(1), 43 Original and sensitive multiresidue methods are presented for the detection and quantitation, in human biol. matrixes, of 61 pesticides of toxicol. significance in human. These methods involved rapid solid-phase extn. using new polymeric support (HLB and MCX) OASIS cartridges. Gas chromatog.-mass spectrometry (GC-MS) was used for volatile (organophosphate, organochlorine, phthalimide, uracil) pesticides and liq. chromatog.-ionspray-mass spectrometry (LC-MS) for thermolabile and polar pesticides (carbamates, benzimidazoles). Acquisition was performed in the selected ion monitoring (SIM) mode. Extn. recovery varied owing to the nature of pesticides, but was satisfactory for all. Limits of detection (LODs) and limits of quantitation (LOQs) ranged, resp., from 2.5 to 20 and from 5 to 50 ng/mL. An excellent linearity was obsd. from LOQs up to 1000 ng/mL for all the pesticides studied. The proposed procedures yielded reproducible results with good inter-assay accuracy and precision. A few cases of intoxication are presented to demonstrate the diagnostic interest of these methods: in two cases were detd. lethal concns. of endosulfan and carbofuran; in four other cases, the procedures helped diagnose intoxication with, resp., parathion-Et, the assocn. of bromacil and strychnine, bifenthrin and aldicarb. [on SciFinder (R)] 0379-0738 forensic/ pesticide/ GC/ MS/ LC/ MS/ blood

715. Lacorte, S. , Molina, C., and Barcelo, D. (1993). Screening of Organophosphorus Pesticides in Environmental Matrices by Various Gas Chromatographic Techniques. *Anal chim acta* 281: 71-84.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Gas chromatography with nitrogen-phosphorus detection (GC-NPD) using three different capillary columns, DB-1701, RSL-300 and DB-5, was employed for the identification of 25 organophosphorus pesticides and various transformation products. Spectral information on and typical fragment ions of the different compounds were obtained by gas chromatography-mass spectrometry with electron impact and negative-ion chemical ionization. Clean-up methods involving Florisil, Empore C18 extraction discs, C18 cartridges and gel permeation chromatography using Bio-Beads S-X3 were evaluated for the isolation of selected organophosphorus pesticides from water and biota samples. Recoveries for water samples varied from 77 to 120% with a relative standard deviation of 2-8% whereas recoveries of 30-130% were obtained with biota samples. Applications are reported for the determination of pyridafenthion in water samples from the Ebro delta (Tarragona, Spain).
MESH HEADINGS: BIOLOGY/METHODS
MESH HEADINGS: BIOCHEMISTRY/METHODS

MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Methods
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

716. Lacorte, Silvia, Ehresmann, Nadia, and Barcelo, Damia (1995). Stability of organophosphorus pesticides on disposable solid-phase extraction precolumns. *Environmental Science and Technology* 29: 2834-41.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:916294
Chemical Abstracts Number: CAN 123:321546
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus; stability of organophosphorus pesticides on disposable solid-phase extn. precolumns); Sampling (pesticide/precolumn storage; stability of organophosphorus pesticides on disposable solid-phase extn. precolumns)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (stability of organophosphorus pesticides on disposable solid-phase extn. precolumns); 55-38-9 (Fenthion); 56-38-2 (Parathion-ethyl); 56-72-4 (Coumaphos); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos-methyl); 115-90-2 (Fensulfothion); 119-12-0 (Pyridafenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 298-01-1 (cis-Mevinphos); 338-45-4 (trans-Mevinphos); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 2104-64-5 (EPN); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3383-96-8 (Temephos); 22224-92-6 (Fenamiphos) Role: ANT (Analyte), ANST (Analytical study) (stability of organophosphorus pesticides on disposable solid-phase extn. precolumns) The stability of 19 organophosphorus (OP) pesticides was performed using precolumns from the Prospekt (automated online solid-phase extn. system) filled with C18. Several different storage conditions were tested, which included storage at 4 Deg and -20 Deg, and a combination of 2 conditions where precolumns were stored at 4 Deg for 1.5 mo and held at room temp. until anal. (0.5 and 1 mo). Complete recovery was obsd. in precolumns kept in at -20 Deg for 8 mo except for mevinophos, dichlorvos, and phosmet, which had recoveries of 22-58%. Degrdn. also occurred for these same OP pesticides when precolumns were stored at 4 Deg for 2 mo and at room temp. for 1 mo, with losses varying 21-78% and 41-61%, resp. Complete degrdn. of fenamiphos and fonofos occurred in precolumns stored at 4 Deg and at room temp. The stability of the pesticides in each storing treatment is related to the hydrolytic processes and their soly. in water. [on SciFinder (R)] 0013-936X pesticide/ detn/ stability/ extn/ precolumn;/ storage/

precolumn/ stability/ pesticide/ detn;/ organophosphorus/ pesticide/ precolumn/ stability;/ solid/ phase/ extn/ pesticide/ detn

717. Lacorte, Silvia, Molina, Carmen, and Barcelo, Damia (1993). Screening of organophosphorus pesticides in environmental matrixes by various gas chromatographic techniques. *Analytica Chimica Acta* 281: 71-84.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1993:610021
Chemical Abstracts Number: CAN 119:210021
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus, detn. of, in water, by capillary column gas chromatog)
CAS Registry Numbers: 56-38-2 (Parathion-ethyl); 56-72-4 (Coumaphos); 62-73-7 (Dichlorvos); 115-86-6; 115-90-2; 119-12-0 (Pyridafenthion); 121-75-5; 122-14-5 (Fenitrothion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 311-45-5; 333-41-5 (Diazinon); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-35-6 (Paraoxon-methyl); 1634-78-2 (Malaoxon); 2255-17-6 (Fenitrooxon); 2275-23-2 (Vamidothion); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 8065-48-3 (Demeton); 13194-48-4 (Ethoprop); 22224-92-6 (Fenamiphos); 22248-79-9 (Stirofos); 150825-91-5 (RPA 400629) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in water, by capillary column gas chromatog); 7732-18-5 (Water) Role: ANST (Analytical study) (organophosphorus pesticide detn. in, screening in relation to) Gas chromatog. with N-P detection (GC-NPD) using 3 different capillary columns, DB-1701, RSL-300, and DB-5, was used to identify 25 organophosphorus pesticides and various transformation products. Spectral information on and typical fragment ions of the different compds. were obtained by gas chromatog.-mass spectrometry with electron impact and neg.-ion chem. ionization. Clean-up methods involving Florisil, Empore C18 extn. disks, C18 cartridges, and gel permeation chromatog. using Bio-Beads S-X3 were evaluated for isolation of selected organophosphorus pesticides from water and biota samples. Recoveries for water samples was 77-120% with a relative std. deviation of 2-8%, whereas recoveries of 30-130% were obtained with biota samples. Applications are reported to det. pyridafenthion in water samples from the Ebro delta (Tarragona, Spain). [on SciFinder (R)] 0003-2670 screening/ organophosphorus/ pesticide/ water

718. Laframboise, J. G. and Chang, Jen-Shih (1977). Theory of charge deposition on charged aerosol particles of arbitrary shape. *Journal of Aerosol Science* 8: 331-338.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The theory of charge collection by a charged equipotential aerosol particle in a stationary medium having no external electric fields, is re-examined for arbitrary particle shape. In the continuum limit, when the particle size is much greater than the ion mean free path, we show that the expression for charging current dependence on particle surface potential, previously derived for spheres by Fuchs and others, has the same form for all particle shapes. In the general (finite mean-free-path) case, we obtain an approximate charging current expression which we evaluate in detail for oblate and prolate spheroids. This result is shown to have the correct form in the collisionless (large mean-free-path) limit if the particle surface potential is repelling for the ion species considered. This leads to a prediction that for a very elongated spheroid, charged collection will be much more sensitive to departure from collisionless conditions than in the case of a sphere of the same equatorial radius. http://www.sciencedirect.com/science/article/B6V6B-48C78CN-2P/2/93aab36d0952b1ab32f916f26d8db009

719. Lagana, A., D'Ascenzo, G., Fago, G., and Marino, A (1997). Determination of organophosphorus pesticides and metabolites in crops by solid-phase extraction followed by liquid chromatography/diode array detection. *Chromatographia* 46: 256-264.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:786274
Chemical Abstracts Number: CAN 128:45409
Section Code: 9-3
Section Title: Biochemical Methods
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus; organophosphorus pesticides and metabolites in crops detd. by solid-phase extn. followed by liq. chromatog./diode array detection); Extraction (solid-phase; organophosphorus pesticides and metabolites in crops detd. by solid-phase extn. followed by liq. chromatog./diode array detection); Liquid chromatographic detectors (spectrometric; organophosphorus pesticides and metabolites in crops detd. by solid-phase extn. followed by liq. chromatog./diode array detection)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion-ethyl); 56-72-4 (Coumaphos); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3; 311-45-5 (Paraoxon-ethyl); 333-41-5 (Diazinon); 470-90-6; 732-11-6 (Phosmet); 786-19-6 (Carbofenothion); 944-22-9 (Fonofos); 950-35-6 (Paraoxon-methyl); 950-37-8 (Methidathion); 1634-78-2 (Malaoxon); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyriphos); 3383-96-8 (Temephos); 5598-13-0; 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 23505-41-1 (Pirimiphos-ethyl); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 38260-54-7 (Etrimfos) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (organophosphorus pesticides and metabolites in crops detd. by solid-phase extn. followed by liq. chromatog./diode array detection); 67-56-1 (Methanol); 75-05-8 (Acetonitrile) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (organophosphorus pesticides and metabolites in crops detd. by solid-phase extn. followed by liq. chromatog./diode array detection, mobile phase) A multiresidue method for the anal. of 28 common organophosphorus pesticides and 3 of their main metabolites (paraoxon-Et, paraoxon-Me, and malaoxon) in crop was developed. An aliquot of the chopped sample is homogenized with an org. solvent. The efficiency of extn. methods using MeOH, acetone, and acetonitrile was evaluated. Acetonitrile gives higher recoveries and minimizes co-extractives from the samples matrix. The resulting aq. acetonitrile ext. is filtered and cleaned by solid phase extn. (SPE). For SPE 3 different types of adsorption materials (Carbograph 1, LiChrolut-EN, and Amberchrom CG-161m) were compared. The cleaned-up ext. is injected into the LC system. Three different anal. columns were tested in conjunction with 2 mobile phase compns. of different polarity. The use of LC-DAD techniques allowed the identification of both organophosphorus pesticides and metabolites by means of std. and spectral comparison, resp. The accuracy of the quant. detn. measured in terms of av. percentage recovery of 31 compds. in crop samples was 61-96% with a relative std. deviation of 5-10%. [on SciFinder (R)] 0009-5893 organophosphate/ pesticide/ crop/ solid/ phase/ extn;/ liq/ chromatog/ organophosphate/ pesticide/ crop;/ diode/ array/ detection/ organophosphate/ pesticide/ crop

720. Lahm, George Philip (20060302). Preparation of novel anthranilamides useful for controlling invertebrate pests. 87 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:193331
Chemical Abstracts Number: CAN 144:274265

Section Code: 28-8
Section Title: Heterocyclic Compounds (More Than One Hetero Atom)
CA Section Cross-References: 5
Coden: PIXXD2
Index Terms: Eubacteria; Fungi; Virus (entomopathogenic; prepn. of novel anthranilamides useful for controlling invertebrate pests); Macrolides; Ureas Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (insecticidal; prepn. of novel anthranilamides useful for controlling invertebrate pests); Hormones Role: BSU (Biological study, unclassified), BIOL (Biological study) (juvenile; prepn. of novel anthranilamides useful for controlling invertebrate pests); Food (materials; prepn. of novel anthranilamides useful for controlling invertebrate pests); Insecticides (neonicotinoid; prepn. of novel anthranilamides useful for controlling invertebrate pests); Sodium channel blockers (neuronal; prepn. of novel anthranilamides useful for controlling invertebrate pests); Acari; Araneae; Attractants; Bacillus thuringiensis; Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; Blattaria; Culicidae; Empoasca fabae; Formicidae; GABA antagonists; Gnat; Humectants; Insecticides; Invertebrata; Isoptera; Pesticides; Propellants; Simuliidae; Soils; Spodoptera frugiperda; Sprays; Stomoxys calcitrans; Surfactants; Tabanidae; Vespa; Vespula; Wasp (prepn. of novel anthranilamides useful for controlling invertebrate pests); Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (pyrethroids; prepn. of novel anthranilamides useful for controlling invertebrate pests); Containers (spray; prepn. of novel anthranilamides useful for controlling invertebrate pests); Apparatus (trap, for controlling an invertebrate pest; prepn. of novel anthranilamides useful for controlling invertebrate pests); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins; prepn. of novel anthranilamides useful for controlling invertebrate pests)
CAS Registry Numbers: 463-77-4D (Carbamic acid) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (prepn. of novel anthranilamides useful for controlling invertebrate pests); 52-68-6; 56-38-2 (Parathion); 60-51-5 (Dimethoate); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5; 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 333-41-5; 510-15-6 (Chlorobenzilate); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chloropyrifos); 5598-13-0; 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatinoxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9; 23103-98-2 (Pirimicarb); 23135-22-0; 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 37273-91-9 (Metaldehyde); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 76703-62-3 (Gamma-cyhalothrin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 114282-89-2; 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119544-94-4 (Protrifenbute); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 129558-76-5 (Tolfenpyrad); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 165252-70-0 (Dinotefuran); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl);

181587-01-9 (Ethiprole); 201593-84-2 (Bistrifluron); 209861-58-5 (Acetoprole); 210880-92-5 (Clothianidin); 223419-20-3 (Profluthrin); 240494-70-6 (Metofluthrin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (prepn. of novel anthranilamides useful for controlling invertebrate pests); 877876-75-0P; 877876-76-1P; 877876-77-2P; 877876-78-3P; 877876-79-4P; 877876-80-7P; 877876-81-8P; 877876-82-9P; 877876-83-0P; 877876-84-1P; 877876-85-2P; 877876-86-3P; 877876-87-4P; 877876-88-5P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of novel anthranilamides useful for controlling invertebrate pests); 75-31-0 (Isopropylamine); 141-05-9 (Diethyl maleate); 1187-93-5 (Trifluoromethyl trifluorovinyl ether); 4389-45-1 (2-Amino-3-methylbenzoic acid); 22841-92-5 (3-Chloro-2-hydrazinopyridine) Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of novel anthranilamides useful for controlling invertebrate pests); 108857-24-5P; 500011-88-1P; 500011-95-0P; 871239-18-8P; 877876-89-6P; 877876-90-9P; 877876-91-0P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of novel anthranilamides useful for controlling invertebrate pests)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2004-602153
Priority Application Date: 20040817
Citations: Hughes, K; WO 2004046129 A 2004
Citations: Lahm, G; WO 03015519 A 2003
Citations: Clark, D; WO 03062226 A 2003
Citations: Selby, T; WO 03032731 A 2003 The title compds. I [Q = II-IV; R1 = X-Z-O-R11; X = O, S or NR12; Z = haloalkylene or haloalkenylene; R2 = H, alkyl, haloalkyl, etc.; R3 = H, alkyl, alkenyl, etc.; R4 = H, alkyl, alkenyl, etc.; R5 = OH, alkoxy, alkylamino, etc.; or NR4R5 = ring contg. 2-6 carbon atoms and optionally one addnl. atom of N, S or O; R6, R7 = H, alkyl, alkenyl, etc.; W = N, CR2; V = N, CR13; Y = N, CR14; R11 = alkyl, alkenyl, cycloalkyl, etc.; R12 = H, alkyl; R13, R14 = H, alkyl, cycloalkyl, etc.; L = a direct bond or a linking chain of one or more members selected from C, N, O, S, etc.; n = 1-4], were prepd. and claimed. E.g., a multi-step synthesis of V, starting from 3-chloro-2-hydrazinopyridine and di-Et maleate, was given. Compd. V resulted in at least 80% mortality when tested against fall armyworm (Spodoptera frugiperda). Also disclosed are compns. contg. the compds. I and methods for controlling an invertebrate pest comprising contacting the invertebrate pest or its environment with a biol. effective amt. of a compd. or a compn. of the invention. [on SciFinder (R)] anthranilamide/ prepn/ pesticide/ invertebrate/ pest

721. Lahm, George Philip, McCann, Stephen Frederick, Patel, Kanu Maganbhai, Selby, Thomas Paul, and Stevenson, Thomas Martin (20030227). Method for controlling particular insect pests by applying anthranilamide compounds. 150 pp.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: PATENT.

Database: CAPLUS
Accession Number: AN 2003:154154
Chemical Abstracts Number: CAN 138:200331
Section Code: 5-4
Section Title: Agrochemical Bioregulators

CA Section Cross-References: 28
Coden: PIXXD2
Index Terms: Insecticides (anthranilamide compds. as); Acrosternum hilare; Acyrthosiphon pisum; Adelges; Agriotes; Alabama argillacea; Anasa tristis; Aphis craccivora; Aphis fabae; Aphis gossypii; Aphis pomi; Aphis spiraecola; Archips; Archips argyrospilus; Archips rosana; Athous; Aulacorthum solani; Bemisia argentifolia; Bemisia tabaci; Blissus leucopterus leucopterus; Chaetosiphon fragaefolii; Chilo suppressalis; Cnaphalocrocis medinalis; Coleoptera; Corythucha gossypii; Crambus caliginosellus; Crambus teterrellus; Cyrtopeltis modesta; Dialeurodes citri; Diuraphis noxia; Dysaphis plantaginea; Dysdercus suturellus; Earias insulana; Earias vitella; Empoasca fabae; Epilachna varivestis; Eriosoma lanigerum; Erythroneura; Euschistus servus; Euschistus variolarius; Frankliniella occidentalis; Grapholita pomonella; Graptostethus; Helicoverpa armigera; Helicoverpa zea; Heliothis virescens; Hemiptera; Herpetogramma licarsisalis; Homoptera; Hyalopterus pruni; Icerya purchasi; Laodelphax striatellus; Lepidoptera; Leptinotarsa decemlineata; Leptoglossus corculus; Limonius; Lipaphis erysimi; Lobesia botrana; Lygus lineolaris; Macrosiphum dirhodum; Macrosiphum euphorbiae; Macrosteles quadrilineatus; Magicicada septendecim; Myzus persicae; Nasonovia ribisnigri; Nephotettix cincticeps; Nephotettix nigropictus; Nezara viridula; Nilaparvata lugens; Oebalus pugnax; Oncopeltus fasciatus; Pectinophora gossypiella; Pemphigus; Peregrinus maidis; Phyllocnistis citrella; Phylloxera devastatrix; Pieris brassicae; Pieris rapae; Planococcus citri; Plutella xylostella; Pseudatomoscelis seriatus; Pseudococcus; Psylla pyricola; Quadraspidiotus perniciosus; Rhopalosiphum fitchii; Rhopalosiphum maidis; Schizaphis graminum; Scirtothrips citri; Sericothrips variabilis; Sitobion avenae; Sogatella furcifera; Sogatodes oryzicola; Spodoptera exigua; Spodoptera frugiperda; Spodoptera litura; Therioaphis maculata; Thrips tabaci; Thysanoptera; Toxoptera aurantii; Toxoptera citricida; Trialeurodes vaporariorum; Trichoplusia ni; Trioza diospyri; Tuta absoluta; Typhlocyba pomaria (anthranilamide compds. as insecticides against); Insecticides (carbamate; in insecticidal compns. contg. anthranilamide compds.); Eubacteria; Fungi; Virus (entomopathogenic; in insecticidal compns. contg. anthranilamide compds.); Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; GABA antagonists; Sodium channel blockers (in insecticidal compns. contg. anthranilamide compds.); Macrolides Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in insecticidal compns. contg. anthranilamide compds.); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics; in insecticidal compns. contg. anthranilamide compds.); Insecticides (neonicotinoid; in insecticidal compns. contg. anthranilamide compds.); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; in insecticidal compns. contg. anthranilamide compds.); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins; in insecticidal compns. contg. anthranilamide compds.)
CAS Registry Numbers: 362637-52-3; 362637-54-5; 362637-55-6; 362637-56-7; 362637-57-8; 362637-58-9; 362637-59-0; 362637-60-3; 362637-61-4; 362637-62-5; 362637-63-6; 362637-64-7; 362637-65-8; 362637-66-9; 362637-67-0; 362637-68-1; 362637-69-2; 362637-71-6; 362637-72-7; 362637-73-8; 362637-74-9; 362637-75-0; 362637-76-1; 362637-77-2; 362637-78-3; 362637-79-4; 362637-80-7; 362637-81-8; 362637-82-9; 362637-83-0; 362637-84-1; 362637-85-2; 362637-86-3; 362637-87-4; 362637-88-5; 362637-89-6; 362637-90-9; 362637-91-0; 362637-92-1; 362637-93-2; 362637-94-3; 362637-95-4; 362637-96-5; 362637-97-6; 362637-98-7; 362637-99-8; 362638-00-4; 362638-03-7; 362638-04-8; 362638-05-9; 362638-06-0; 362638-07-1; 362638-08-2; 362638-09-3; 362638-10-6; 362638-11-7; 362638-12-8; 362638-13-9; 362638-14-0; 362638-15-1; 362638-16-2; 362638-17-3; 362638-18-4; 362638-19-5; 362638-20-8; 362638-21-9; 362638-22-0; 362638-23-1; 362638-24-2; 362638-25-3; 362638-26-4; 362638-27-5; 362638-28-6; 362638-29-7; 362638-31-1; 362638-32-2; 362638-33-3; 362638-34-4; 362638-35-5; 362638-36-6; 362638-37-7; 362638-38-8; 362638-39-9; 362638-40-2; 362638-41-3; 362638-42-4; 362638-43-5; 362638-44-6; 362638-45-7; 362638-46-8; 362638-47-9; 362638-48-0; 362638-49-1; 362638-50-4; 362638-51-5; 362638-52-6; 362638-53-7; 362638-54-8; 362638-55-9; 362638-56-0; 362638-57-1; 362638-58-2; 362638-59-3; 362638-60-6; 362638-63-9; 362638-64-0; 362638-65-1; 362638-66-2; 362638-67-3; 362638-68-4; 362638-69-5; 362638-70-8; 362638-71-9; 362638-72-0; 362638-73-1; 362638-74-2; 362638-75-3; 362638-76-4; 362638-

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(Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in insecticidal compns. contg. anthranilamide compds.); 362637-53-4P; 362637-70-5P; 362638-30-0P; 362639-62-1P; 438450-41-0P (N-[4-Chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide); 500008-00-4P; 500008-44-6P; 500008-45-7P; 500008-60-6P; 500008-62-8P; 500010-10-6P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of anthranilamide compds. as insecticides); 129585-50-8P Role: BYP (Byproduct), SPN (Synthetic preparation), PREP (Preparation) (prepn. of anthranilamide compds. as insecticides); 74-89-5 (Methylamine); 75-03-6 (Iodoethane); 75-31-0 (Isopropylamine); 76-05-1 (Trifluoroacetic acid); 79-37-8 (Oxalyl chloride); 98-59-9 (p-Toluenesulfonyl chloride); 100-63-0 (Phenylhydrazine); 109-72-8 (n-Butyllithium); 112-02-7 (Cetyltrimethylammonium chloride); 121-44-8 (Triethylamine); 124-63-0 (Methanesulfonyl chloride); 128-09-6 (N-Chlorosuccinimide); 367-57-7; 421-50-1 (1,1,1-Trifluoroacetone); 503-38-8 (Trichloromethyl chloroformate); 541-41-3 (Ethyl chloroformate); 584-08-7 (Potassium carbonate); 630-25-1 (1,2-Dibromotetrachloroethane); 1310-58-3 (Potassium hydroxide); 2402-77-9 (2,3-Dichloropyridine); 4111-54-0 (Lithium diisopropylamide); 4389-45-1 (2-Amino-3-methylbenzoic acid); 4755-77-5 (Ethyl chlorooxoacetate); 5437-38-7 (3-Methyl-2-nitrobenzoic acid); 6226-25-1 (2,2,2-Trifluoroethyl trifluoromethanesulfonate); 7087-68-5 (N,N-Diisopropylethylamine); 7664-93-9 (Sulfuric acid); 7789-69-7 (Phosphorus pentabromide); 10025-87-3 (Phosphorus oxychloride); 10035-10-6 (Hydrogen bromide); 14521-80-3 (3-Bromopyrazole); 20154-03-4 (3-Trifluoromethylpyrazole); 22206-57-1 (Tetrabutylammonium fluoride hydrate); 22841-92-5; 65753-47-1 (2-Chloro-3-trifluoromethylpyridine); 66176-17-8 (3-Methylisatoic anhydride); 133228-21-4; 458543-79-8; 499790-43-1; 500011-81-4; 500011-88-1; 500011-94-9 Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of anthranilamide compds. as insecticides); 14339-33-4P (3-Chloropyrazole); 20776-67-4P (2-Amino-3-methyl-5-chlorobenzoic acid); 68289-10-1P (2-Amino-3-methyl-N-(1-methylethyl)benzamide); 120374-68-7P; 128694-66-6P; 362640-53-7P (3-Methyl-N-(1-methylethyl)-2-nitrobenzamide); 362640-58-2P; 362640-59-3P; 362640-60-6P; 362640-61-7P; 362640-62-8P; 438450-38-5P (3-Chloro-2-[3-(trifluoromethyl)-1H-pyrazol-1-yl]pyridine); 438450-39-6P; 438450-40-9P (6-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one); 458543-77-6P; 458543-78-7P; 499790-45-3P; 499790-46-4P; 500011-82-5P; 500011-83-6P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500011-87-0P; 500011-89-2P; 500011-90-5P; 500011-91-6P; 500011-92-7P; 500011-95-0P; 500011-96-1P; 500011-97-2P; 500011-98-3P Role:

RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of anthranilamide compds. as insecticides); 500007-49-8 Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (anthranilamide compds. as insecticides)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2001-311919
Priority Application Date: 20010813
Citations: Rijkslandbouwhogeschool; NL 9202078 A 1994
Citations: Nissan Chem Ind Ltd; JP 2001019691 A 2001
Citations: Du Pont; WO 0170671 A 2001
Citations: James, M; WO 0248115 A 2002 Anthranilamide compds. I (Markush included), N-oxides or an agriculturally suitable salts thereof are prepd. as insecticides for controlling lepidopteran, homopteran, hemipteran, thysanopteran and coleopteran insect pests. Insecticidal compn. contg. anthranilamide compds. I may further comprise addnl. biol. active compds. selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonists, insecticidal ureas, and juvenile hormone mimics. [on SciFinder (R)] A01N043-56. C07D401-04; C07D231-16; C07D231-14; C07D413-04. insecticide/ anthranilamide/ prepn

722. Lahm, George Philip and Selby, Thomas Paul (20030403). Insecticidal compositions containing diamides. 246 pp.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: PATENT.

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Database: CAPLUS
Accession Number: AN 2003:261572
Chemical Abstracts Number: CAN 138:267208
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Eubacteria; Fungi; Virus (entomopathogenic; in insecticidal compns. contg. diamides); Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; GABA antagonists; Sodium channel blockers (in insecticidal compns. contg. diamides); Insecticides (insecticidal compns. contg. diamides); Macrolides Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal; in insecticidal compns. contg. diamides); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics; in insecticidal compns. contg. diamides); Insecticides (neonicotinoid; in insecticidal compns. contg. diamides); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; in insecticidal compns. contg. diamides); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins; in insecticidal compns. contg. diamides)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 463-77-4D (Carbamic acid); 510-15-6 (Chlorobenzilate); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion);

1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in insecticidal compns. contg. diamides); 332168-87-3; 503547-62-4; 503547-63-5; 503547-65-7; 503547-66-8; 503547-67-9; 503547-69-1; 503547-71-5; 503547-72-6; 503547-73-7; 503547-74-8; 503547-75-9; 503547-76-0; 503547-77-1; 503547-78-2; 503547-79-3; 503547-80-6; 503547-81-7; 503547-82-8; 503547-83-9; 503547-84-0; 503547-85-1; 503547-86-2; 503547-87-3; 503547-88-4; 503547-89-5; 503547-90-8; 503547-92-0; 503547-94-2; 503547-95-3; 503547-96-4; 503547-97-5; 503547-98-6; 503547-99-7; 503548-00-3; 503548-01-4; 503548-02-5; 503548-03-6; 503548-04-7; 503548-05-8; 503548-06-9; 503548-07-0; 503548-08-1; 503548-10-5; 503548-11-6; 503548-12-7; 503548-13-8; 503548-14-9; 503548-15-0; 503548-16-1; 503548-17-2; 503548-18-3; 503548-19-4; 503548-20-7 Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal compns. contg.); 57-13-6D (Urea) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal; in insecticidal compns. contg. diamides); 503547-64-6P; 503547-68-0P; 503547-70-4P; 503547-91-9P; 503547-93-1P; 503548-09-2P; 503548-21-8P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. as insecticide); 68-12-2P (N,N-Dimethylformamide); 75-05-8P (Acetonitrile); 79-30-1P (Isobutyryl chloride); 79-37-8P (Oxalyl chloride); 121-44-8P (Triethylamine); 127-09-3P (Sodium acetate); 326-90-9P (4,4,4-Trifluoro-1-(2-furyl)-1,3-butanedione); 421-50-1P (1,1,1-Trifluoroacetone); 570-24-1P (2-Methyl-6-nitroaniline); 4111-54-0P (Lithium diisopropylamide); 4389-50-8P (2-Amino-6-methylbenzoic acid); 4755-77-5P (Ethyl chlorooxoacetate); 4771-47-5P (3-Chloro-2-nitrobenzoic acid); 7087-68-5P (N,N-Diisopropylethylamine); 7719-09-7P (Thionyl chloride); 7758-19-2P (Sodium chlorite); 10026-13-8P (Phosphorus pentachloride); 10049-21-5P (Sodium dihydrogen phosphate monohydrate); 10449-07-7P (2-Chlorophenylhydrazine); 13395-16-9P (Copper(II)acetylacetonate); 13506-76-8P (2-Methyl-6-nitrobenzoic acid); 16940-66-2P (Sodium borohydride); 22206-57-1P (Tetrabutylammonium fluoride hydrate); 22841-92-5P (3-Chloro-2(1H)-pyridinone hydrazone); 41052-75-9P (2-Chlorophenylhydrazine hydrochloride); 66232-57-3P (2-Methyl-6-nitrobenzoyl chloride); 67169-22-6P; 74123-20-9P (Trifluoromethyl acetate); 86256-59-9P; 110234-68-9P (4,4,4-Trifluoroacetoacetonitrile); 174770-85-5P; 437711-24-5P; 437711-25-6P; 437711-26-7P; 438450-39-6P; 499790-43-1P; 499790-45-3P; 503548-22-9P; 503548-23-0P; 503548-24-1P; 503548-25-2P; 503548-26-3P; 503548-27-4P; 503548-28-5P;

503548-29-6P; 503548-30-9P; 503548-31-0P; 503548-32-1P; 503548-33-2P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of diamides as insecticide)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2001-324083
Priority Application Date: 20010921 Compns. for controlling an invertebrate pest comprise a biol. effective amt. of a compd. I (Markush included), including all geometric and stereoisomers, N-oxides and agriculturally suitable salts thereof, and may optionally comprise addnl. components selected from the group consisting of surfactants, solid diluents and liq. diluents, and addnl. biol. active compds. or agents selected from the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonists, insecticidal ureas, juvenile hormone mimics, and biol. agents. such as Bacillus thuringiensis , Bt delta endotoxins, baculoviruses, entomopathogenic bacteria, viruses and fungi. [on SciFinder (R)] A01N. diamide/ insecticide/ prepn

723. Lahm, George Philip and Selby, Thomas Paul (20020620). Preparation of substituted heterocyclic phthalic acid diamide arthropodicides. 225 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Database: CAPLUS
Accession Number: AN 2002:465997
Chemical Abstracts Number: CAN 137:47194
Section Code: 28-8
Section Title: Heterocyclic Compounds (More Than One Hetero Atom)
CA Section Cross-References: 5
Coden: PIXXD2
Index Terms: Bacillus thuringiensis; Baculoviridae (compns. for controlling invertebrate pests contg.; prepn. of substituted heterocyclic phthalic acid diamide arthropodicides); Pesticides (controlling invertebrate pests; prepn. of substituted heterocyclic phthalic acid diamide arthropodicides); Microorganism (entomopathogenic, compns. for controlling invertebrate pests contg. entomopathogenic virus; prepn. of substituted heterocyclic phthalic acid diamide arthropodicides); Eubacteria; Fungi (entomopathogenic, compns. for controlling invertebrate pests contg.; prepn. of substituted heterocyclic phthalic acid diamide arthropodicides); Arthropoda (prepn. of substituted heterocyclic phthalic acid diamide arthropodicides)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 83-79-4 (Rotenone); 86-50-0 (Azinphos/methyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorbenzylate); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-

8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 59669-26-0 (Thiodicarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Beta-Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (compns. for controlling invertebrate pests contg.; prepn. of substituted heterocyclic phthalic acid diamide arthropodicides); 437711-11-0P; 437711-12-1P; 437711-13-2P; 437711-14-3P; 437711-15-4P; 437711-16-5P; 437711-17-6P; 437711-18-7P; 437711-19-8P; 437711-20-1P; 437711-21-2P; 437711-22-3P; 437711-29-0P; 437711-30-3P; 437711-31-4P; 437711-32-5P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of substituted heterocyclic phthalic acid diamide arthropodicides); 75-31-0 (Isopropylamine); 326-90-9 (4,4,4-Trifluoro-1-(2-furyl)-1,3-butanedione); 4548-45-2 (2-Chloro-5-nitropyridine); 28418-88-4 (3-Iodophthalic anhydride); 41052-75-9 (2-Chlorophenylhydrazine hydrochloride) Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of substituted heterocyclic phthalic acid diamide arthropodicides); 72617-81-3P; 72617-82-4P; 437711-23-4P; 437711-24-5P; 437711-25-6P; 437711-26-7P; 437711-27-8P; 437711-28-9P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of substituted heterocyclic phthalic acid diamide arthropodicides)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2000-254636
Priority Application Date: 20001211 The title compds. [I; J = (un)substituted pyrazolyl, pyridyl, pyrimidyl, etc.; R1 = H, alkyl, alkoxycarbonyl, alkylcarbonyl; R2 = H, alkyl; R3 = H, alkyl, alkenyl, etc.; one R4 is attached to the Ph ring at the 3-position or 6-position, and said R4 = alkyl, haloalkyl, halo, etc.; an optional second R4 = H, alkyl, cycloalkyl, etc.; n = 1-2], useful for controlling invertebrate pests, were prepd. E.g., a multi-step synthesis of 3-iodo-II [R3 = iso-Pr; R4 = 3-I; R7 = OCH2CF3; X = CH; Y = CH; Z = N] and 6-iodo-II [R3 = iso-Pr; R4 = 6-I; R7 = OCH2CF3; X = CH; Y = CH; Z = N], was given. Both compds., 3-iodo-II and 6-iodo-II , were evaluated for control of diamondback moth in a container with radish plant, and both provided excellent levels of plant protection (10% or less feeding damage). Also disclosed are compns. for controlling an invertebrate pest comprising a biol. effective amt. of a compd. I and methods for controlling an invertebrate pest comprising contacting the invertebrate pest or its environment with a biol. effective amt. of a compd. I (e.g., as a compn. described herein). [on SciFinder (R)]
C07D401-04. A01N043-56; C07D231-40; C07D213-75; C07D239-46; C07D207-34; A01N043-40. heterocyclic/ phthalic/ acid/ diamide/ prepn/ arthropod/ pesticide;/ benzenedicarboxamide/ pyridyl/ pyrazolyl/ prepn/ arthropod/ pesticide

724. Lahm, George Philip, Selby, Thomas Paul, and Stevenson, Thomas Martin (20030227). Arthropodicidal anthranilamides. 82 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:154155
Chemical Abstracts Number: CAN 138:200332
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 28
Coden: PIXXD2
Index Terms: Insecticides (carbamates; in arthropodicidal compns. contg. anthranilamide); Eubacteria; Fungi; Virus (entomopathogenic; in arthropodicidal compns. contg. anthranilamide); Acaricides; Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Baculoviridae; GABA antagonists; Insecticides; Nematocides; Sodium channel blockers (in arthropodicidal compns. contg. anthranilamide); Macrolides Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal; in arthropodicidal compns. contg. anthranilamide); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics; in arthropodicidal compns. contg. anthranilamide); Insecticides (neonicotinoid; in arthropodicidal compns. contg. anthranilamide); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids; in arthropodicidal compns. contg. anthranilamide); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins, Bacillus thuringiensis; in arthropodicidal compns. contg. anthranilamide)
CAS Registry Numbers: 500007-97-6; 500008-03-7; 500008-04-8; 500008-05-9; 500008-07-1; 500008-14-0; 500008-18-4; 500008-19-5; 500008-20-8; 500008-21-9; 500008-23-1; 500008-25-3; 500008-27-5; 500008-29-7; 500008-30-0; 500008-32-2; 500008-34-4; 500008-36-6; 500008-47-9; 500008-49-1; 500008-51-5; 500008-53-7; 500008-54-8; 500008-55-9; 500008-56-0; 500008-58-2; 500008-59-3; 500008-64-0; 500008-66-2; 500008-67-3; 500008-68-4; 500008-69-5; 500008-70-8; 500008-71-9; 500008-72-0; 500008-73-1; 500008-74-2; 500008-75-3; 500008-76-4; 500008-77-5; 500008-79-7; 500008-80-0; 500008-81-1; 500008-82-2; 500008-84-4; 500008-85-5; 500008-86-6; 500008-87-7; 500008-88-8; 500008-89-9; 500008-90-2; 500008-91-3; 500008-92-4; 500008-93-5; 500008-94-6; 500008-95-7; 500008-98-0; 500008-99-1; 500009-00-7; 500009-01-8; 500009-03-0; 500009-04-1; 500009-05-2; 500009-06-3; 500009-07-4; 500009-08-5; 500009-26-7; 500009-47-2; 500009-52-9; 500009-66-5; 500009-86-9; 500009-97-2; 500010-06-0; 500010-07-1; 500010-08-2; 500010-09-3; 500010-11-7; 500010-12-8; 500010-15-1; 500010-22-0; 500010-32-2; 500010-33-3; 500010-34-4; 500010-35-5; 500010-46-8; 500010-47-9; 500010-48-0; 500010-49-1; 500010-50-4; 500010-51-5; 500010-52-6; 500010-53-7; 500010-54-8; 500010-55-9; 500010-57-1; 500010-58-2; 500010-59-3; 500010-60-6; 500010-61-7; 500010-62-8; 500010-67-3; 500010-68-4; 500010-69-5; 500010-70-8; 500010-71-9; 500010-72-0; 500010-73-1; 500010-74-2; 500010-75-3; 500010-76-4; 500010-77-5; 500010-79-7; 500010-80-0; 500010-95-7; 500010-96-8; 500010-98-0; 500010-99-1; 500011-00-7; 500011-01-8; 500011-02-9; 500011-05-2; 500011-13-2; 500011-15-4; 500011-17-6; 500011-18-7; 500011-19-8; 500021-31-8; 500021-32-9; 500021-33-0; 500021-35-2; 500021-36-3; 500021-37-4; 500021-38-5; 500021-39-6; 500021-40-9; 500021-41-0; 500021-42-1 Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (arthropodicidal anthranilamide); 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9

(Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 84466-05-7 (Amidoflumet); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin); 283594-90-1 (Spiromesifen) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (in arthropodicidal compns. contg. anthranilamide); 57-13-6D (Urea) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal; in arthropodicidal compns. contg. anthranilamide); 438450-41-0P (N-[4-Chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazole-5-carboxamide); 500008-00-4P; 500008-44-6P; 500008-45-7P; 500008-60-6P; 500008-62-8P; 500011-91-6P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of arthropodicidal anthranilamide); 64-17-5 (Ethanol); 67-72-1 (Hexachloroethane); 68-12-2 (N,N-Dimethylformamide); 74-89-5 (Methylamine); 75-31-0 (Isopropylamine); 76-05-1 (Trifluoroacetic acid); 79-37-8 (Oxalyl chloride); 98-59-9 (p-Toluenesulfonyl chloride); 109-72-8 (n-Butyllithium); 121-44-8 (Triethylamine); 124-63-0 (Methanesulfonyl chloride); 128-09-6 (N-Chlorosuccinimide); 141-52-6 (Sodium ethoxide); 421-50-1 (1,1,1-Trifluoroacetone); 503-38-8 (Trichloromethyl chloroformate); 584-08-7 (Potassium carbonate); 2402-77-9 (2,3-Dichloropyridine); 4111-54-0 (Lithium diisopropylamide); 4389-45-1 (2-Amino-3-methylbenzoic acid); 4755-77-5 (Ethyl chlorooxoacetate); 6226-25-1 (2,2,2-Trifluoroethyl trifluoromethanesulfonate); 7664-93-9 (Sulfuric acid); 7789-69-7 (Phosphorus pentabromide); 10025-87-3 (Phosphorus oxychloride); 10035-10-6 (Hydrogen bromide); 20154-03-4 (3-(Trifluoromethyl)pyrazole); 22206-57-1 (Tetrabutylammonium fluoride hydrate); 22841-92-5; 133228-21-4 Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of arthropodicidal anthranilamide); 14339-33-4P (3-Chloropyrazole); 14521-80-3P (3-Bromopyrazole); 20776-67-4P (2-Amino-3-methyl-5-chlorobenzoic acid); 120374-68-7P; 438450-38-5P (3-Chloro-2-[3-(trifluoromethyl)-1H-pyrazol-1-yl]pyridine); 438450-39-6P; 438450-40-9P (6-Chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one); 458543-77-6P; 458543-78-7P; 458543-79-8P; 499790-43-1P; 499790-45-3P; 499790-46-4P; 500011-83-6P; 500011-84-7P; 500011-85-8P; 500011-86-9P; 500011-87-0P; 500011-88-1P; 500011-89-2P; 500011-92-7P; 500011-93-8P; 500011-95-0P; 500011-96-1P; 500011-97-2P; 500011-98-3P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of arthropodicidal anthranilamide); 500010-10-6P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of arthropodicidal anthranilamide)

PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2001-311919
Priority Application Date: 20010813
Citations: Rijkslandbouwhogeschool; NL 9202078 A 1994
Citations: James, M; WO 0248115 A 2002
Citations: Du Pont; WO 0170671 A 2001
Citations: Du Pont; WO 02070483 A 2002 Anthranilamides I (Markush included), their N-oxides and agriculturally suitable salts are prepd. as arthropodicides for controlling invertebrate pests. Arthropodicidal compns. contg. anthranilamides I may further include addnl. biol. active compds. or agents selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonists, insecticidal ureas, and juvenile hormone mimics, Bacillus thuringiensis sp. aizawai, B. thuringiensis sp. kurstaki, B. thuringiensis delta endotoxin, baculoviruses, and entomopathogenic bacteria, viruses and fungi. [on SciFinder (R)] A01N043-56. C07D401-04; C07D413-14. anthranilamides/ insecticide/ arthropodicide/ prepn

725. Lahm, George Philip, Selby, Thomas Paul, Stevenson, Thomas Martin, Taggi, Andrew Edmund, and Bereznak, James Francis (20060526). Preparation of anthranilamide derivative insecticides and acaricides. 97 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 2006:496102
Chemical Abstracts Number: CAN 144:462625
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Acaricides; Insecticides (anthranilamide derivs.); Bacillus thuringiensis; Bacillus thuringiensis aizawai; Baculoviridae (mixts. with anthranilamide derivs.; synergistic insecticides and acaricides); Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. with anthranilamide; synergistic insecticides and acaricides); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, mixts. with anthranilamide derivs.; synergistic insecticides and acaricides)
CAS Registry Numbers: 201593-84-2D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (Bistrifluron; synergistic insecticides and acaricides); 1621-24-5P; 51761-72-9P; 871239-13-3P; 871239-14-4P; 871239-15-5P; 871239-16-6P; 871239-17-7P; 882402-11-1P; 886583-60-4P; 886583-61-5P; 886583-62-6P; 886583-63-7P; 886583-64-8P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (intermediate in prepn. of anthranilamide deriv. insecticides and acaricides); 736995-23-6P; 882401-50-5P; 886583-28-4P; 886583-29-5P; 886583-30-8P; 886583-31-9P; 886583-32-0P; 886583-33-1P; 886583-34-2P; 886583-35-3P; 886583-36-4P; 886583-37-5P; 886583-38-6P; 886583-39-7P; 886583-40-0P; 886583-41-1P; 886583-42-2P; 886583-43-3P; 886583-44-4P; 886583-45-5P; 886583-46-6P; 886583-47-7P; 886583-48-8P; 886583-49-9P; 886583-50-2P; 886583-51-3P; 886583-52-4P; 886583-53-5P; 886583-54-6P; 886583-55-7P; 886583-56-8P; 886583-57-9P; 886583-58-0P; 886583-59-1P; 886583-69-3P Role: AGR (Agricultural use), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. as insecticide and acaricides); 886583-65-9; 886583-66-0; 886583-67-1; 886583-68-2 Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic insecticide and acaricide); 52-68-6D; 56-38-2D (Parathion); 72-43-5D (Methoxychlor); 86-50-0D

(Azinphosmethyl); 108-62-3D (Metaldehyde); 115-29-7D (Endosulfan); 115-32-2D (Dicofol); 116-06-3D (Aldicarb); 121-75-5D; 298-00-0D (Parathionmethyl); 298-02-2D (Phorate); 510-15-6D (Chlorobenzilate); 732-11-6D (Phosmet); 950-37-8D (Methidathion); 1563-66-2D (Carbofuran); 2227-17-0D (Dienochlor); 2310-17-0D (Phosalone); 2312-35-8D (Propargite); 2439-01-2D (Chinomethionat); 2921-88-2D (Chloropyrifos); 5598-13-0D; 6923-22-4D (Monocrotophos); 10265-92-6D (Methamidophos); 11141-17-6D (Azadirachtin); 13071-79-9D (Terbufos); 13121-70-5D (Cyhexatin); 13171-21-6D (Phosphamidon); 13356-08-6D (Fenbutatin oxide); 15263-53-3D (Cartap); 16752-77-5D (Methomyl); 22224-92-6D (Fenamiphos); 22248-79-9D; 23103-98-2D (Pirimicarb); 23135-22-0D (Oxamyl); 25311-71-1D (Isofenphos); 30560-19-1D (Acephate); 33089-61-1D (Amitraz); 35400-43-2D (Sulprofos); 39515-41-8D (Fenpropathrin); 40596-69-8D (Methoprene); 41198-08-7D (Profenofos); 51630-58-1D (Fenvalerate); 52207-48-4D (Thiosultapsodium); 52315-07-8D (Cypermethrin); 52645-53-1D (Permethrin); 58842-20-9D (Nithiazine); 59669-26-0D (Thiodicarb); 62850-32-2D (Fenothiocarb); 63837-33-2D (Diofenolan); 64628-44-0D (Triflumuron); 66215-27-8D (Cyromazine); 66230-04-4D (Esfenvalerate); 66841-25-6D (Tralomethrin); 67485-29-4D (Hydramethylnon); 68085-85-8D (Cyhalothrin); 68359-37-5D (Betacyfluthrin); 69327-76-0D (Buprofezin); 70124-77-5D (Flucythrinate); 71422-67-8D (Chlorfluazuron); 71751-41-2D (Abamectin); 72490-01-8D (Fenoxycarb); 73989-17-0D (Avermectin); 76703-62-3D (Gammacyhalothrin); 78587-05-0D (Hexythiazox); 79538-32-2D (Tefluthrin); 82657-04-3D (Bifenthrin); 83121-18-0D (Teflubenzuron); 84466-05-7D (Amidoflumet); 86479-06-3D (Hexaflumuron); 91465-08-6D; 95737-68-1D (Pyriproxyfen); 96489-71-3D (Pyridaben); 101463-69-8D (Flufenoxuron); 102851-06-9D (Taufluvalinate); 103055-07-8D (Lufenuron); 111988-49-9D (Thiacloprid); 112143-82-5D (Triazamate); 112226-61-6D (Halofenozide); 112410-23-8D (Tebufenozide); 116714-46-6D (Novaluron); 119168-77-3D (Tebufenpyrad); 119544-94-4D (Protrifenbute); 119791-41-2D (Emamectin); 120068-37-3D (Fipronil); 120928-09-8D (Fenazaquin); 121451-02-3D (Noviflumuron); 122453-73-0D (Chlorfenapyr); 123312-89-0D (Pymetrozine); 129558-76-5D (Tolfenpyrad); 134098-61-6D (Fenpyroximate); 135410-20-7D (Acetamiprid); 138261-41-3D (Imidacloprid); 139968-49-3D (Metaflumizone); 143807-66-3D (,Chromafenozide); 149877-41-8D (Bifenazate); 150824-47-8D (Nitenpyram); 153233-91-1D (Etoxazole); 153719-23-4D (Thiamethoxam); 158062-67-0D (Flonicamid); 161050-58-4D (Methoxyfenozide); 165252-70-0D (Dinotefuran); 170015-32-4D (Flufenerim); 173584-44-6D (Indoxacarb); 179101-81-6D (Pyridalyl); 181587-01-9D (Ethiprole); 209861-58-5D (Acetoprole); 223419-20-3D (Profluthrin); 240494-70-6D (Metofluthrin); 272451-65-7D (,Flubendiamide) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic insecticides and acaricides)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2004-629120
Priority Application Date: 20041118 The anthranilamide derivs. I and their geometric and stereoisomers, N-oxides, and salts [J = (un)substituted Ph or N-contg. heterocyclyl; R1 = alkyl alkenyl, alkynyl, etc.; R2 = alkylcarbonyl, alkoxycarbonyl or (di)alkylaminocarbonyl; R3 = (cyclo)alkyl, alkenyl, alkynyl, alkoxy, etc. ; R4 = (un)substituted alkylcycloalkyl, alkenylcycloalkyl, alkynylcycloalkyl, cycloalkylalkyl, cycloalkylalkenyl, cycloalkylalkynyl, cycloalkenylalkyl or alkylcycloalkenyl, oxiranylalkyl, thiiranylalkyl, oxetanylalkyl,thietanylalkyl, 3-oxetanyl or 3-thietanyl; R5 = (cyclo)alkyl, haloalkyl, alkenyl alkynyl, etc.] are prepd. as pesticides for controlling invertebrate pests, specifically insecticides and acaricides. [on SciFinder (R)] A01N. anthranilamide/ deriv/ prepn/ insecticide/ acaricide

726. Lan, Z., Scherm, H., and Horton, D. L. (2003). Reduced Midseason Pesticide Program for Control of Scab

and Plum Curculio in Peach. *Plant Dis.* 87: 699-706.
Chem Codes: Chemical of Concern: PSM,Captan,MP Rejection Code: MIXTURE.

727. Landon, M. F. and Oriol, C. (1972). Hydrodynamic properties of lobster arginine kinase. *Biochimica et Biophysica Acta (BBA) - Protein Structure* 278: 227-232.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

The molecular weight of lobster arginine kinase has been found to be 42 000 using high speed sedimentation equilibrium. Various experimental constants related to hydrodynamic behaviour have been determined and used to obtain an estimation of the shape of the hydrodynamic particle. This behaves like a globular unit equivalent to a prolate ellipsoid with an axial ratio of 3-4:1.
http://www.sciencedirect.com/science/article/B73GJ-47STK02-GN/2/0e0e7af830b47154e6a46e686ce375a0

728. Landry, D., Dousset, S., and Andreux, F. (Leaching of Oryzalin and Diuron Through Undisturbed Vineyard Soil Columns Under Outdoor Conditions. *Chemosphere. 2006, mar; 62(10):1736-47. [Chemosphere]: Chemosphere*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Field studies monitoring herbicide pollution in the vineyards of Burgundy (France) have revealed that drinking water reservoirs are contaminated with several pre-emergence herbicides. An assessment of the leaching of two such herbicides, diuron and oryzalin, was therefore performed using lysimeters, under outdoor conditions, from May 2001 to May 2002. Four vineyard soils from Vosne-Romanée (Burgundy) were chosen along a topolithosequence: a rendosol and three calcosols. After 673 mm of rainfall, greater amounts of diuron than oryzalin were measured in percolates: respectively 0.10-0.84% and 0.02-0.43% of applied herbicide, depending on soils. Measurements for diuron metabolites detected greater amounts of DCPMU than DCPU in the percolates: respectively 0.05-0.13% and 0-0.04% of the applied diuron. At the end of the monitoring period, more residues of diuron than oryzalin were recovered in the soil profiles: respectively 4.6-9% and 1.4-4.4%. The oryzalin residues were found mainly in the upper 10 cm of soil columns, whereas diuron residues were present in the whole core. The mobility of both oryzalin and diuron seems fairly well-related to soil organic carbon content; the mobility of diuron is also related to soil texture (sand and coarse material contents). Under such experimental conditions, this study confirms that diuron leaching, and therefore potential groundwater contamination, is greater than that of oryzalin.
MESH HEADINGS: Agriculture
MESH HEADINGS: Dinitrobenzenes/*analysis
MESH HEADINGS: Diuron/*analysis
MESH HEADINGS: Environmental Monitoring
MESH HEADINGS: France
MESH HEADINGS: Pesticide Residues/*analysis
MESH HEADINGS: Soil Pollutants/*analysis
MESH HEADINGS: Sulfanilamides/*analysis
MESH HEADINGS: Vitis
MESH HEADINGS: Water Pollutants, Chemical/*analysis
LANGUAGE: eng

729. Landry, E. F., Vaughn, J. M., Thomas, M. Z., and Beckwith, C. A. (Adsorption of Enteroviruses to Soil Cores and Their Subsequent Elution by Artificial Rainwater. *Appl environ microbiol. 1979, oct; 38(4):680-7. [Applied and environmental microbiology]: Appl Environ Microbiol*.
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

ABSTRACT: The adsorption and elution of a variety of human enteroviruses in a highly permeable, sandy soil was studied by using cores (43 by 125 mm) collected from an operating recharge basin on Long Island. Viruses studied included field and reference strains of polioviruses types 1 and 3 and reference strains of coxsackie virus B3 and echovirus types 1 and 6. Viruses

suspended in treated sewage effluent were allowed to percolate through soil cores, and the filtrate was assayed for unadsorbed viruses. To determine the likelihood of desorption and mobilization, soil-bound viruses were subjected to a rinse with either treated sewage effluent or simulated rainwater which reflected the anion, cation, and pH characteristics of a typical northeastern United States rainfall. The results demonstrated that all polioviruses tested, including both reference and field strains, adsorbed extremely well to cores. Adsorption was somewhat reduced when clean, unconditioned soils were used. Soil-bound poliovirus strain LSc was not significantly mobilized by flooding columns with either a sewage effluent or rainwater rinse. One virus was mobilized by both types of rinses. The amount of viruses mobilized by rainwater rinses ranged from 24 to 66%. Variable adsorption-elution results were observed with other enteroviruses. Two guanidine-resistant mutants of poliovirus LSc demonstrated a soil adsorption-elution profile different from that of the parent strain. The data support the conclusion that soil adsorption-elution behavior is strain dependent and that poliovirus, particularly strain LSc, represents an inappropriate model.
MESH HEADINGS: Adsorption
MESH HEADINGS: *Enterovirus/isolation &amp
MESH HEADINGS: purification
MESH HEADINGS: Enterovirus B, Human/isolation &amp
MESH HEADINGS: purification
MESH HEADINGS: Guanidines/pharmacology
MESH HEADINGS: Mutation
MESH HEADINGS: Poliovirus/genetics/isolation &amp
MESH HEADINGS: purification
MESH HEADINGS: Rain
MESH HEADINGS: Sewage
MESH HEADINGS: *Soil Microbiology
MESH HEADINGS: *Water
MESH HEADINGS: Water Microbiology
LANGUAGE: eng

730. Langenakens, Jan J., Vandewalle, Xavier, and De Baerdemaeker, Josse (1997). Influence of Global Shape and Internal Structure of Tomatoes on the Resonant Frequency. *Journal of Agricultural Engineering Research* 66: 41-49.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The firmness of a tomato can be estimated non-destructively from the measurement of its resonant frequency. The purpose of this research was to investigate the reliability of this technique in relation to the global shape and the internal structure of a tomato. The dynamic behaviour of spherical and non-spherical tomatoes was studied first by experimental modal analysis. Mode shapes, excitation techniques and measurement points for obtaining high impulse responses are compared. The effect of the internal compartmental structure of a tomato on the responses at different excitation points was studied. From the measured frequency response functions, the second resonant frequency, with an "oblate-prolate " synchronized motion of the fruit, was selected for further use. The corresponding mode shape incorporates the largest deformations for the small impact excitation used. The best repetitive results with greatest discrimination from other modes are obtained by impacting and measuring the response at the equator, at points 180[degree sign] from each other, for both spherical and non-spherical tomatoes. Impacting and or measuring the tomato on fleshy or juicy parts of the tomato resulted in a small change (less than 0[middle dot]5%) in the resonant frequency. During ripening, on the other hand, the resonant frequencies of all mode shapes decreased gradually. A testing procedure based on measurements of the resonant frequencies, namely the acoustic impulse response technique, is proposed.
http://www.sciencedirect.com/science/article/B6WH1-45M8XYB-2T/2/9aefca99003aabb981f119f007d05583

731. Langenbach, T., Schroll, R., and Scheunert, I. (Fate of the Herbicide 14c-Terbuthylazine in Brazilian Soils Under Various Climatic Conditions. *Chemosphere. 2001, oct; 45(3):387-98. [Chemosphere]: Chemosphere.*

Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: 14C-terbuthylazine was applied to three Brazilian soils in closed aerated laboratory microcosms, both under standardized and under natural Brazilian climate conditions. Volatilization from soil to air, leaching from soil to percolate water, and transport from upper to deeper soil layers were higher in sandy soil than in clay soil and in organic soil. Mineralization of 14C-terbuthylazine to 14CO2 was higher in sandy soil than in clay and organic soils under standardized climatic conditions, whereas it was higher in organic soil than in sandy soil under Brazilian summer conditions. Under natural Brazilian summer conditions, leaching as well as vertical transport within the soil were enhanced as compared to standardized climate conditions comprising lower precipitation rates; volatilization was strongly reduced under high irrigation conditions.
MESH HEADINGS: Brazil
MESH HEADINGS: Carbon Radioisotopes/analysis
MESH HEADINGS: *Climate
MESH HEADINGS: Environmental Monitoring
MESH HEADINGS: Herbicides/*analysis/chemistry
MESH HEADINGS: Minerals
MESH HEADINGS: Rain
MESH HEADINGS: Soil Pollutants/*analysis
MESH HEADINGS: Triazines/*analysis/chemistry
MESH HEADINGS: Volatilization
MESH HEADINGS: Water Movements
LANGUAGE: eng

732. Langenbach, T., Schroll, R., and Scheunert, I. (2001). Fate of the Herbicide ¹⁴C-Terbuthylazine in Brazilian Soils Under Various Climatic Conditions. *Chemosphere, 45 (3) pp. 387-398, 2001*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0045-6535
Descriptors: Tropical soil
Descriptors: Transport
Descriptors: Leaching
Descriptors: Biomineralization
Descriptors: Volatilization
Abstract: ¹⁴C-terbuthylazine was applied to three Brazilian soils in closed aerated laboratory microcosms, both under standardized and under natural Brazilian climate conditions. Volatilization from soil to air, leaching from soil to percolate water, and transport from upper to deeper soil layers were higher in sandy soil than in clay soil and in organic soil. Mineralization of ¹⁴C-terbuthylazine to ¹⁴CO<inf>2</inf> was higher in sandy soil than in clay and organic soils under standardized climatic conditions, whereas it was higher in organic soil than in sandy soil under Brazilian summer conditions. Under natural Brazilian summer conditions, leaching as well as vertical transport within the soil were enhanced as compared to standardized climate conditions comprising lower precipitation rates; volatilization was strongly reduced under high irrigation conditions. (copyright) 2001 Elsevier Science Ltd. All rights reserved.
27 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues
Subfile: Plant Science

733. Large, George B. and Pitt, Leland S (19760511). Insecticidal phthalimidothiophosphates activated with phosphorothionates. 7 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1976:488533
Chemical Abstracts Number: CAN 85:88533
Section Code: 5-4
Section Title: Agrochemicals
CA Section Cross-References: 25
Coden: USXXAM
Index Terms: Insecticides (phthalimidothiophosphates, phosphorothionates synergists for)
CAS Registry Numbers: 6460-44-2; 18961-96-1; 38052-05-0; 59987-21-2 Role: RCT (Reactant), RACT (Reactant or reagent) (amidation of); 732-11-6 Role: AGR (Agricultural use), BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticide, phosphorothionates synergists for); 16604-64-1P; 26258-08-2P; 36717-07-4P; 40334-42-7P; 59987-00-7P; 59987-01-8P; 59987-02-9P; 59987-03-0P; 59987-04-1P; 59987-05-2P; 59987-06-3P; 59987-07-4P; 59987-08-5P; 59987-09-6P; 59987-10-9P; 59987-11-0P; 59987-12-1P; 59987-13-2P; 59987-14-3P; 59987-15-4P; 59987-16-5P; 59987-17-6P; 59987-18-7P; 59987-19-8P; 59987-20-1P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. and insecticidal synergism with (mercaptomethyl)phthalimide dimethyl phosphorodithioate); 78-81-9; 108-91-8; 111-86-4; 112-20-9; 2016-57-1 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with phosphorothiochloridate esters)
Patent Application Country: Application: US Phosphorothionates PhOP(:S)R2NRR1 [R = H or lower alkyl; R1 = H, alkyl or cycloalkyl; R2 = lower alkoxy or NR3R4 (R3 and R4 = H and lower alkyl)] prepd. by reacting an appropriate amine with a halogenated phosphorothionate, are synergists for insecticidal phthalimidothiophosphates. The addn. of O-methyl O-phenyl dimethylphosphoramidothioate [59987-02-9] increased the lethality of N-(mercaptomethyl)phthalimide S-[O,O-dimethyl phosphorodithioate] [732-11-6] to housefly, Trichoplusia ni and other species in lab. expts. Other phosphorothionates were also prepd. and tested. [on SciFinder (R)] A01N009-36. phosphorothionate/ insecticide/ synergist;/ phthalimidothiophosphate/ phosphorothionate/ synergism

734. Large, George B. and Pitt, Leland S (19740820). O,O-dialkyl-O-(1-methyl-2-phenyl vinyl)thiophosphates. 3 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1975:81720
Chemical Abstracts Number: CAN 82:81720
Section Code: 5-4
Section Title: Agrochemicals
Coden: USXXAM
Index Terms: Insecticides (synergists, phenyl vinyl phosphorothioate as, for (mercaptomethyl) phosphorodithioate)
CAS Registry Numbers: 732-11-6 Role: BIOL (Biological study) (insecticidal synergists for, phenyl vinyl phosphorothioates as); 53587-50-1P; 53587-51-2P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. and insecticidal synergistic activity of); 7646-69-7 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with dimethyl chloridophosphorothioate and phenylacetone); 103-79-7 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with dimethyl chloridophosphorothioate and sodium hydride); 2524-04-1 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with phenylacetone and sodium hydride); 2524-03-0 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with sodium hydride and phenylacetone)

Patent Application Country: Application: US PhCH:CMeOP(S)(OR)OR' (I, R and R' = lower alkyl) is a synergist for phosphorodithioate insecticides. Thus, the toxicity of N-(mercaptomethyl)phthalimide S-(O,O-dimethyl phosphorodithioate) (II) [732-11-6] to tobacco budworm (Heliothis virescens) was increased 200-fold by addn. of O,O-dimethyl O-(1-methyl-2-phenylvinyl) phosphorothioate (I, R = R' = Me) [53587-50-1] at a 1:1 ratio. [on SciFinder (R)] A01N; C07F. phenyl/ vinyl/ phosphorothioate/ insecticide/ synergist

735. Large, George B. and Pitt, Leland S (19770118). Phosphorus-containing insecticide activators. 12 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1977:184571
Chemical Abstracts Number: CAN 86:184571
Section Code: 5-4
Section Title: Agrochemicals
CA Section Cross-References: 25, 28
Coden: USXXAM
Index Terms: Insecticides (activators, phosphorothioates as)
CAS Registry Numbers: 2524-03-0; 2524-04-1 Role: RCT (Reactant), RACT (Reactant or reagent) (esterification of, by sodium phenylate); 732-11-6 Role: AGR (Agricultural use), BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticides, phosphorothioate activators for); 139-02-6 Role: RCT (Reactant), RACT (Reactant or reagent) (phosphorochloridothioate esterification by); 62450-46-8; 62450-47-9 Role: BIOL (Biological study) (phosphorodithiophosphate insecticides activator); 4829-03-2; 4901-37-5; 28519-17-7; 59288-81-2; 62450-48-0; 62450-49-1; 62450-50-4; 62450-51-5; 62450-52-6; 62450-53-7; 62450-54-8; 62450-55-9; 62450-56-0; 62450-57-1; 62450-58-2; 62450-59-3; 62450-60-6; 62450-61-7; 62450-62-8; 62450-63-9; 62450-64-0; 62450-65-1; 62450-66-2; 62450-67-3; 62450-68-4; 62450-69-5; 62450-70-8; 62450-71-9; 62450-72-0; 62450-73-1; 62450-74-2; 62450-75-3; 62450-76-4; 62450-77-5; 62450-78-6; 62450-79-7; 62487-41-6; 62487-42-7; 63142-44-9; 63142-45-0 Role: BIOL (Biological study) (phthalimidodithiophosphate insecticides activator); 32345-29-2P; 33576-92-0P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. and insecticidal activity stimulation by)
Patent Application Country: Application: US R2OP(:S)(OR)OR1 (R = R1 = C1-4 alkyl; R2 = Ph, substituted phenyl or phenalkyl and substituted phenalkyl) are insecticidal activators. Thus, tests on housefly with 100 mg/mL [S-(N-mercaptomethyl)phthalimide] O,O-di-Me phosphorodithioate (I) [732-11-6] and 500 mg/mL O,O-di-Me O-Ph phosphorothioate [33576-92-0] resulted in an LD50 (mg of toxicant/25 female flies) of 30 as compared to an LD50 of 5000 for I and >10000 for the phosphorothioate. [on SciFinder (R)] A01N009-36. insecticide/ phosphorothioate/ activator;/ phthalimidodithiophosphate/ phosphorothioate/ activator

736. Large, George B. and Pitt, Leland S (19750527). Thiophosphate synergists. 4 pp. Division of U.S. 3,830,877.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1975:509825
Chemical Abstracts Number: CAN 83:109825
Section Code: 5-4
Section Title: Agrochemicals
CA Section Cross-References: 29
Coden: USXXAM
Index Terms: Insecticides (synergists for, styryl phosphorothioates as)
CAS Registry Numbers: 53587-50-1P; 53587-51-2P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. and insecticidal synergistic activity of); 2524-03-0; 2524-04-1 Role: RCT

(Reactant), RACT (Reactant or reagent) (reaction of, with phenyl acetone); 103-79-7 Role: BIOL (Biological study) (redn. and reaction with dialkyl chloridophosphorothiate); 732-11-6 Role: BIOL (Biological study) (synergists for, styryl phosphorothioate as)
Patent Application Country: Application: US The styryl phosphorothioates I (R and R1 = lower alkyl) are synergists for N-(mercaptomethyl)phthalimide S-(O,O-dimethyl phosphorodithioate) (II) [732-11-6]. Thus, the addn. of I (R = R1 = Me) [53587-50-1] greatly enhanced the insecticidal activity of II against chlorothion-resistant housefly, salt-marsh caterpillar (Estigmene acrea) and tobacco budworm (Heliothis virescens). The synthesis of I is given. [on SciFinder (R)] A01N. insecticide/ synergist/ styryl/ phosphorothioate;/ mercaptomethylphthalimide/ dimethyl/ phosphorodithioate/ synergist

737. Lartiges, S. and Garrigues, P (1993). Determination of organophosphorus and organonitrogen pesticides in water and sediments by GC-NPD and GC-MS. *Analusis* 21: 157-65.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1993:462083
Chemical Abstracts Number: CAN 119:62083
Section Code: 80-6
Section Title: Organic Analytical Chemistry
CA Section Cross-References: 5, 61
Document Type: Journal
Language: written in English.
Index Terms: Chromatography (detn. of organophosphorus and organonitrogen pesticide in environmental samples by, with nitrogen-phosphorus and mass spectrometric detection); Mass spectrometry (gas chromatog. combined with, for detn. of organophosphorus and organonitrogen pesticides in environmental samples); Geological sediments (organophosphorus and organonitrogen pesticide detn. in, by gas chromatog. with nitrogen-phosphorus detector and mass spectrometric detector); Pesticides (organophosphorus and organonitrogen, detn. of, in water and sediments by gas chromatog. with nitrogen-phosphorus and mass spectrometric detectors)
CAS Registry Numbers: 7723-14-0D (Phosphorus); 7727-37-9D (Nitrogen) Role: ANT (Analyte), ANST (Analytical study) (detn. of pesticides of, in water and sediments by gas chromatog. using nitrogen-phosphorus detector and mass spectrometric detector); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Ethylparathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2; 86-50-0 (Methyl-azinphos); 121-75-5; 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 298-00-0 (Methylparathion); 298-02-2 (Phorate); 311-45-5 (Ethyl-paraoxon); 330-55-2 (Linuron); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 1563-66-2 (Carbofuran); 1634-78-2 (Malaoxon); 1912-24-9 (Atrazine); 2104-96-3 (Bromophos); 2642-71-9; 2921-88-2; 3383-96-8 (Temephos); 5598-13-0 (Methyl-chlorpyriphos); 7786-34-7 (Mevinphos); 13071-79-9; 13194-48-4 (Ethoprophos); 22248-79-9 (Tetrachlorvinphos); 22936-86-3 (Cyprazine); 24017-47-8 (Triazophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos) Role: ANT (Analyte), ANST (Analytical study) (detn. of, by gas chromatog. using nitrogen-phosphorus detector or mass spectrometric detector); 7732-18-5 (Water) Role: ANT (Analyte), ANST (Analytical study) (organophosphorus and organonitrogen pesticide detn. in, by gas chromatog. with nitrogen-phosphorus detector and mass spectrometric detector) An anal. procedure has been developed for the detn. of organophosphorus (OP) and organonitrogen (ON) compds. in the aquatic environment (water, sediments). OP and ON were detd. by a gas chromatog. app. (GC) equipped with cool on-column injectors and coupled either with a nitrogen-phosphorus detector (NPD) or with a mass selective detector (MSD) in electron impact (EI) and pos. chem. ionization (PCI) modes. Chromatog. retention indexes based on a series of organonitrogen internal stds. were defined for GC-NPD in order to confirm analytes in environmental samples. Atrazine, simazine and diazinon were identified in surface waters by GC-NPD and GC-MS. [on SciFinder (R)] 0365-4877 organophosphorus/ pesticide/ detn/ water/ sediment/ GC;/ organonitrogen/ pesticide/ detn/ water/ sediment/ GC;/ pesticide/ organophosphorus/ organonitrogen/ detn/ gas/ chromatog;/ water/ analysis/ pesticide/ gas/

chromatog;/ sediment/ analysis/ pesticide/ gas/ chromatog

738. Lartiges, S. B. and Garrigues, P (1995). Gas chromatographic analysis of organophosphorus and organonitrogen pesticides with different detectors. *Analusis* 23: 418-21.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:117096
Chemical Abstracts Number: CAN 124:168141
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Chromatography; Pesticides (organophosphorus and organonitrogen pesticides detn. by gas chromatog. with different detectors); Geological sediments (organophosphorus and organonitrogen pesticides detn. by gas chromatog. with different detectors in); Chromatographs (detectors, nitrogen phosphorus; organophosphorus and organonitrogen pesticides detn. by gas chromatog. with different detectors); Chromatographs (detectors, electron-capture, organophosphorus and organonitrogen pesticides detn. by gas chromatog. with different detectors); Chromatographs (detectors, flame-photometric, organophosphorus and organonitrogen pesticides detn. by gas chromatog. with different detectors); Chromatographs (detectors, mass spectrometric, organophosphorus and organonitrogen pesticides detn. by gas chromatog. with different detectors)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (anal.; organophosphorus and organonitrogen pesticides detn. by gas chromatog. with different detectors in); 55-38-9 (Fenthion); 56-38-2 (Ethyl-parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 86-50-0 (Methyl-azinphos); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl-parathion); 298-02-2 (Phorate); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 1912-24-9 (Atrazine); 2104-96-3 (Bromophos); 2642-71-9 (Ethyl-azinphos); 13071-79-9 (Terbufos); 22936-86-3 (Cyprazine); 24017-47-8 (Triazophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos) Role: ANT (Analyte), ANST (Analytical study) (detn. by gas chromatog. with different detectors) Various types of detectors have been tested for the anal. of organophosphorus (OP) pesticides by gas chromatog. (GC): nitrogen phosphorus detector (NPD), flame photometric detector (FPD) with either a phosphorus or a sulfur filter, electron capture detector (ECD) and mass spectrometric detector (MS) either in electron impact mode (EI) or in pos. chem. ionization (PCI) mode. Sensitivity, linearity and selectivity of the different detectors have been detailed and application to the anal. of natural samples has also been presented. In addn. to OP pesticides, a few organonitrogen compds. (triazines and carbamates) frequently used in agriculture have been also studied. [on SciFinder (R)] 0365-4877
pesticide/ detn/ gas/ chromatog/ detector

739. Lartiges, Syvain B. and Garrigues, Philippe P (1995). Degradation Kinetics of Organophosphorus and Organonitrogen Pesticides in Different Waters under Various Environmental Conditions. *Environmental Science and Technology* 29: 1246-54.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:481703
Chemical Abstracts Number: CAN 122:222190
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.

Index Terms: Kinetics of decomposition; Pesticides; Water pollution (degrdn. kinetics of organophosphorus and organonitrogen pesticides in water)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Ethyl parathion); 56-72-4 (Coumaphos); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 86-50-0 (Methyl-azinphos); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl parathion); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 1912-24-9 (Atrazine); 2104-96-3 (Bromophos); 2642-71-9 (Azinphos-ethyl); 22936-86-3 (Cyprazine); 24017-47-8 (Triazophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos)
Role: PEP (Physical, engineering or chemical process), POL (Pollutant), OCCU (Occurrence), PROC (Process) (degrdn. kinetics of organophosphorus and organonitrogen pesticides in water)
The evolution of a mixt. contg. 19 organophosphorus (OP) and organonitrogen (ON) pesticides at ppb level was studied over a 6-mo period in different water types (ultrapure water, natural seawater, river water, filtered river water) and under various conditions. The degrdn. kinetics were monitored in closed bottles in darkness at two temps. (6 and 22 Deg) and in a system exposed to natural sunlight (variable temp.). The mixt. was analyzed by gas chromatog. coupled with a nitrogen phosphorus detector (GC/NPD). Energy activation (Ea) and half-lifetimes (t1/2) were detd. Very different degrdn. behavior with respect to physicochem. conditions and mol. structures of the pesticides was obsd. These expts. confirm that half-lives of OP pesticides can be more than several months and consequently lead to lasting environmental pollution. [on SciFinder (R)] 0013-936X pesticide/ water/ degrdn/ kinetics

740. Laughrea, Michael and Moore, P. B. (1977). Physical properties of ribosomal protein S1 and its interaction with the 30 S ribosomal subunit of Escherichia coli. *Journal of Molecular Biology* 112: 399-421.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Ribosomal protein S1 behaves in solution like a 10:1 prolate ellipsoid. Its tertiary structure is stabilized by considerable [beta]-sheet and little [alpha]-helix (~10% [alpha]-helix, ~40% [beta]-sheet). S1 bound to 30 S subunit is freely exchanged both with S1 free in solution and between subunits. Activated 30 S subunits (Zamir et al., 1971) bind one equivalent of S1 per particle; unactivated preparations can bind two. http://www.sciencedirect.com/science/article/B6WK7-4M34SDY-3/2/73107c11cf6e1843c0dc57549ef5de54

741. Laurinat, J. E. (Heat Transfer From Condensate Droplets Falling Through an Immiscible Layer of Tributyl Phosphate. *Govt reports announcements & index (gra&i), issue 26, 2006*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: Sponsored by Department of Energy, Washington, DC.
ABSTRACT: As part of a safety analysis of reactions in two-layer mixtures of nitric acid and tributyl phosphate (TBP), an experiment was conducted to study how steam condensate mixes with the TBP layer when steam passes over a TBP-nitric acid mixture. The experiments showed that the condensate does not form a separate layer on top of the TBP but instead percolates as droplets through the TBP layer. The temperature at the top surface of the TBP layer undergoes a step change increase when the initial condensate droplets reach the surface. Temperatures at the surface and within the TBP and aqueous layers subsequently approach a steady state distribution governed by laminar convection and radiation heat transfer from the vapor space above the two-layer mixture. The rate of temperature increase and the steady state temperature gradient are determined by a characteristic propagation velocity and a streamwise dispersion coefficient for heat transfer. The propagation velocity is the geometric mean of the thermal convection velocities for the organic and aqueous phases, and the dispersion coefficient equals 0.494 times the product of the superficial condensate droplet velocity and the diameter of the test vessel. The value of the dispersion coefficient agrees with the Joshi (1980) correlation for liquid phase backmixing in bubble columns. Transient perturbations occur in the TBP layer temperatures. A Fourier analysis shows that the dominant frequency of these perturbations equals the natural frequency given by the transient heat transfer solution.
KEYWORDS: TBP
KEYWORDS: *Nitric acid
KEYWORDS: *Safety analysis

KEYWORDS: Radioactive waste processing
KEYWORDS: Heat transfer
KEYWORDS: Mixing
KEYWORDS: Permeability
KEYWORDS: Butyl phosphates

742. Lawler, S. (Farmer's Research Goes Against the Grain. *Trends cell biol. 2001, mar; 11(3):110. [Trends in cell biology]: Trends Cell Biol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

MESH HEADINGS: Animals
MESH HEADINGS: Cattle
MESH HEADINGS: Copper/chemistry
MESH HEADINGS: Encephalopathy, Bovine Spongiform/*chemically induced
MESH HEADINGS: Insecticides/*poisoning
MESH HEADINGS: Manganese/chemistry
MESH HEADINGS: Nerve Tissue Proteins/*analysis/chemistry/drug effects
MESH HEADINGS: Phosmet/*poisoning
MESH HEADINGS: Prions/*analysis/chemistry/drug effects
LANGUAGE: eng

743. Leach, Robert M. and Zhang, Jun (20050602). Micronized wood preservative formulations. 21 pp., Cont.-in-part of U.S. Ser. No. 821,326.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 2005:471844
Chemical Abstracts Number: CAN 143:28318
Section Code: 43-2
Section Title: Cellulose, Lignin, Paper, and Other Wood Products
CA Section Cross-References: 5
Coden: USXXCO
Index Terms: Quaternary ammonium compounds Role: BUU (Biological use, unclassified), TEM (Technical or engineered material use), BIOL (Biological study), USES (Uses) (alkylbenzyldimethyl, chlorides; micronized wood preservative formulations comprising inorg. metal compds. and org. biocides); Polyoxyalkylenes Role: MOA (Modifier or additive use), USES (Uses) (amino-contg.; micronized wood preservative formulations comprising inorg. metal compds. and org. biocides); Wood (lumber; micronized wood preservative formulations comprising inorg. metal compds. and org. biocides); Biocides; Fungicides; Insecticides; Microparticles; Quassia; Wood preservatives (micronized wood preservative formulations comprising inorg. metal compds. and org. biocides); Cinerins; Metals; Phosphines; Pyrethrins; Quaternary ammonium compounds Role: BUU (Biological use, unclassified), TEM (Technical or engineered material use), BIOL (Biological study), USES (Uses) (micronized wood preservative formulations comprising inorg. metal compds. and org. biocides); Wood (pine; micronized wood preservative formulations comprising inorg. metal compds. and org. biocides); Amine oxides Role: MOA (Modifier or additive use), USES (Uses) (tertiary; micronized wood preservative formulations comprising inorg. metal compds. and org. biocides)
CAS Registry Numbers: 50-00-0 (Formaldehyde); 50-29-3 (DDT); 50-29-3D; 52-51-7 (Bronopol); 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 54-11-5 (Nicotine); 54-64-8 (Thiomersal); 55-38-9 (Fenthion); 56-23-5 (Carbon tetrachloride); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 57-53-4 (Mepronil); 57-92-1 (Streptomycin); 58-89-9 (HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 66-81-9 (Cycloheximide); 67-66-3 (Chloroform); 70-38-2 (Dimethrin); 70-43-9 (Barthrin); 71-55-6 (Methylchloroform); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (TDE); 74-83-9 (Methyl bromide); 74-88-4 (Iodomethane); 74-90-8 (Hydrogen cyanide); 75-09-2 (Methylene chloride); 75-15-0 (Carbon

disulfide); 75-21-8 (Ethylene oxide); 76-06-2 (Chloropicrin); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-53-5 (Amiton); 78-57-9 (Menazon); 78-87-5 (1,2-Dichloropropane); 79-34-5 (Tetrachloroethane); 79-57-2 (Oxytetracycline); 82-68-8 (Quintozene); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 87-17-2 (Salicylanilide); 87-68-3 (Hexachlorobutadiene); 87-86-5 (Pentachlorophenol); 91-20-3 (Naphthalene); 91-53-2 (Ethoxyquin); 92-52-4 (Biphenyl); 93-75-4 (Thioquinox); 96-12-8 (DBCP); 97-11-0 (Cyclethrin); 97-17-6 (Dichlofenthion); 97-18-7 (Bithionol); 97-23-4 (Dichlorophen); 97-77-8 (Disulfiram); 98-01-1 (Furfural); 99-30-9 (Dicloran); 99-49-0 (Carvone); 101-05-3 (Anilazine); 106-46-7 (Para-dichlorobenzene); 106-93-4 (Ethylene dibromide); 107-06-2 (Ethylene dichloride); 107-13-1 (Acrylonitrile); 107-18-6 (Allyl alcohol); 107-49-3 (TEPP); 109-73-9 (Butylamine); 109-94-4 (Ethyl formate); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 115-93-5 (Cythioate); 116-01-8 (Ethoate-methyl); 116-06-3 (Aldicarb); 117-18-0 (Tecnazene); 117-80-6 (Dichlone); 118-74-1 (Hexachlorobenzene); 118-75-2 (Chloranil); 119-12-0 (Pyridaphenthion); 121-20-0 (Cinerin II); 121-21-1 (Pyrethrin I); 121-29-9 (Pyrethrin II); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-15-6 (Dimetan); 122-39-4 (Diphenylamine); 126-07-8 (Griseofulvin); 126-22-7 (Butonate); 126-75-0 (Demeton-S); 131-52-2 (Sodium pentachlorophenoxide); 131-89-5 (Dinex); 132-27-4; 133-06-2 (Captan); 133-07-3 (Folpet); 134-31-6 (8-Hydroxyquinoline sulfate); 137-26-8 (Thiram); 137-29-1 (Copper dimethyl dithiocarbamate); 137-30-4 (Ziram); 140-56-7 (Fenaminosulf); 141-66-2 (Dicrotophos); 142-59-6 (Nabam); 142-71-2 (Copper acetate); 143-50-0; 144-41-2 (Morphothion); 144-54-7 (Metam); 148-79-8 (Thiabendazole); 152-16-9 (Schradan); 297-78-9 (Isobenzan); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 309-00-2 (Aldrin); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronat); 333-41-5 (Diazinon); 370-14-9 (Isodrin); 370-50-3 (Flucofuron); 371-86-8 (Mipafox); 470-90-6 (Chlorfenvinphos); 479-18-5 (Dilor); 483-63-6 (Crotamiton); 485-31-4 (Binapacryl); 494-52-0 (Anabasine); 495-18-1 (Benzohydroxamic acid); 495-73-8 (Benquinox); 502-55-6 (EXD); 520-45-6 (Dehydroacetic acid); 533-74-4 (Dazomet); 534-52-1 (DNOC); 556-22-9 (Glyodin); 556-61-6 (Methyl isothiocyanate); 563-12-2 (Ethion); 572-48-5 (Coumithoate); 584-79-2 (Allethrin); 599-64-4; 640-15-3 (Thiometon); 644-06-4 (Precocene II); 644-64-4 (Dimetilan); 671-04-5 (Carbanolate); 682-80-4 (Demephion-O); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 867-27-6 (Demeton-O-methyl); 919-54-0 (Acethion); 919-76-6 (Amidithion); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 963-22-4; 973-21-7 (Dinobuton); 1031-47-6 (Triamiphos); 1085-98-9; 1086-02-8 (Pyridinitril); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1172-63-0 (Jasmolin II); 1317-38-0 (Cupric oxide); 1332-40-7 (Copper oxychloride); 1344-69-0 (Copper hydroxide); 1344-70-3 (Copper oxide); 1398-61-4 (Chitin); 1491-41-4 (Naftalofos); 1563-66-2 (Carbofuran); 1563-67-3 (Decarbofuran); 1593-77-7 (Dodemorph); 1609-47-8 (Diethyl pyrocarbonate); 1646-88-4 (Aldoxycarb); 1715-40-8 (Bromocyclen); 1716-09-2 (Fenthion-ethyl); 1875-92-9D (Dimethylbenzylammonium chloride); 1897-45-6; 1929-82-4 (Nitrapyrin); 2032-65-7 (Methiocarb); 2079-00-7 (Blasticidin-S); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2274-67-1 (Dimethylvinphos); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (XMC); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2425-10-7 (Xylylcarb); 2439-01-2 (Chinomethionat); 2439-10-3 (Dodine); 2463-84-5 (Dicapthon); 2497-07-6 (Oxydisulfoton); 2540-82-1 (Formothion); 2550-75-6 (Chlorbicyclen); 2587-90-8 (Demephion-S); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2598-31-4 (Quinacetol); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2633-54-7 (Trichlormetaphos-3); 2634-33-5 (1,2-Benzisothiazol-3(2H)-one); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2655-19-8 (Butacarb); 2669-32-1 (Lythidathion); 2675-77-6 (Chloroneb); 2682-20-4; 2699-79-8 (Sulfuryl fluoride); 2778-04-3 (Endothion); 2921-88-2; 3251-23-8; 3347-22-6 (Dithianon); 3383-96-8 (Temephos); 3478-94-2 (Piperalin); 3495-42-9 (Chlorquinox); 3574-96-7 (Chlorfenazole); 3604-87-3 (a-Ecdysone); 3689-24-5 (Sulfotep); 3696-28-4 (Dipyrithione); 3734-95-0 (Cyanthoate); 3761-41-9 (Mesulfenfos); 3766-81-2 (Fenobucarb); 3773-49-7 (Milneb); 3811-49-2 (Dioxabenzofos); 3878-19-1 (Fuberidazole); 4097-36-3 (Dinosam); 4151-50-2 (Sulfluramid); 4234-79-1 (Kelevan); 4466-14-2 (Jasmolin I); 4824-78-6 (Bromophos-ethyl); 5131-24-8 (Ditalimfos); 5221-49-8 (Pyrimitate); 5221-53-4 (Dimethirimol); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5289-74-7 (Ecdysterone); 5386-57-2 (Dinopenton); 5386-77-6 (Dinosulfon);

5598-13-0 (Chlorpyrifos-methyl); 5598-52-7 (Fospirate); 5707-69-7 (Drazoxolon); 5707-73-3 (Metazoxolone); 5826-76-6 (Phosnichlor); 5827-05-4 (IPSP); 5834-94-6 (Azithiram); 5834-96-8 (Azothoate); 5836-23-7 (Tecoram); 5989-27-5; 6073-72-9 (Dinoterbon); 6164-98-3 (Chlordimeform); 6843-97-6 (Dodicin); 6923-22-4 (Monocrotophos); 6980-18-3 (Kasugamycin); 6988-21-2 (Dioxacarb); 7055-03-0 (Mebenil); 7076-63-3 (Cuprobam); 7159-34-4 (Pyroxychlor); 7173-51-5 (Dimethyldidecylammonium chloride); 7219-78-5 (Mazidox); 7257-41-2 (Dinoprop); 7292-16-2 (Propaphos); 7439-92-1 (Lead); 7440-02-0 (Nickel); 7440-22-4 (Silver); 7440-31-5 (Tin); 7440-38-2 (Arsenic); 7440-43-9 (Cadmium); 7440-47-3 (Chromium); 7440-48-4 (Cobalt); 7440-50-8 (Copper); 7440-66-6 (Zinc); 7440-69-9 (Bismuth); 7492-68-4 (Copper carbonate); 7681-93-8 (Natamycin); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7758-98-7 (Copper sulfate); 7786-34-7 (Mevinphos); 8001-35-2 (Camphechlor); 8018-01-7 (Mancozeb); 8022-00-2 (Demeton-methyl); 8065-36-9 (Bufencarb); 8065-41-6 (Aureofungin); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 9006-42-2 (Metiram); 9012-76-4 (Chitosan); 10004-44-1 (Hymexazol); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10380-28-6 (Copper 8-hydroxyquinolate); 10405-27-3 (Fluorimide); 10453-86-8 (Resmethrin); 10537-47-0 (Malonoben); 10605-21-7; 11096-18-7 (Cufraneb); 11113-80-7 (Polyoxin); 11141-17-6 (Azadirachtin); 12069-69-1 (Basic copper carbonate); 12071-83-9 (Propineb); 12122-67-7 (Zineb); 12407-86-2 (Trimethacarb); 12427-38-2 (Maneb); 12789-03-6 (Chlordane); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13516-27-3 (Iminoctadine); 13593-03-8 (Quinalphos); 13593-08-3 (Quinalphos-methyl); 13804-51-8 (Juvenile hormone I); 14047-23-5 (Ampropylfos); 14235-86-0 (Hydrargaphen); 14255-88-0 (Fenazaflor); 14484-64-1 (Ferbam); 14534-29-3 (Copper borate); 14698-29-4 (Oxolinic acid); 14816-16-1 (Phoxim-methyl); 14816-18-3 (Phoxim); 14816-20-7 (Chlorphoxim); 14915-37-8 (Copper omadine); 15096-52-3 (Cryolite); 15263-53-3 (Cartap); 15310-01-7 (Benodanil); 15589-31-8 (Terallethrin); 15845-66-6 (Fosetyl); 16227-10-4 (Triazbutil); 16752-77-5 (Methomyl); 16893-85-9 (Sodium hexafluorosilicate); 17040-19-6; 17080-02-3 (Furethrin); 17109-49-8 (Edifenphos); 17598-02-6 (Precocene I); 17606-31-4 (Bensultap); 17702-57-7 (Formparanate); 17804-35-2 (Benomyl); 18181-70-9 (Jodfenphos); 18809-57-9 (EMPC); 18854-01-8 (Isoxathion); 19378-58-6 (Thiochlorfenphim); 19622-19-6 (Prothiocarb); 19691-80-6 (Athidathion); 20276-83-9 (Prothidathion); 20425-39-2 (Pyresmethrin); 20856-57-9 (Chloraniformethan); 21452-18-6 (Metsulfovax); 21548-32-3 (Fosthietan); 21564-17-0; 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22259-30-9 (Formetanate); 22431-62-5 (Bioethanomethrin); 22439-40-3 (Quinothion); 22662-39-1 (Rafoxanide); 22781-23-3 (Bendiocarb); 22963-93-5 (Juvenile hormone III); 22976-86-9 (Polyoxorim); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphos-ethyl); 23526-02-5 (Thuringiensin); 23560-59-0 (Heptenophos); 23564-05-8 (Thiophanate-methyl); 23564-06-9 (Thiophanate); 23593-75-1 (Clotrimazole); 23947-60-6 (Ethirimol); 24017-47-8 (Triazophos); 24019-05-4 (Sulcofuron); 24201-58-9 (Dichlozoline); 24353-61-5 (Isocarbophos); 24579-73-5 (Propamocarb); 24691-76-7 (Pyracarbolid); 24934-91-6 (Chlormephos); 25171-63-5 (Thiocarboxime); 25311-71-1 (Isofenphos); 25402-06-6 (Cinerin I); 25601-84-7 (Methocrotophos); 26002-80-2 (Phenothrin); 26087-47-8 (Iprobenfos); 26172-55-4; 26530-20-1; 26644-46-2 (Triforine); 26766-27-8 (Triarimol); 27386-64-7 (Mecarbinzid); 27605-76-1 (Probenazole); 27811-89-8; 28434-01-7 (Bioresmethrin); 28559-00-4 (Cypendazole); 28562-70-1 (Furcarbanil); 28730-17-8 (Methfuroxam); 29173-31-7 (Mecarphon); 29232-93-7 (Pirimiphos-methyl); 29672-19-3 (Nitrilacarb); 29973-13-5 (Ethiofencarb); 30087-47-9 (Fenethacarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 31377-69-2 (Pirimetaphos); 31895-21-3 (Thiocyclam); 32809-16-8 (Procymidone); 33089-61-1 (Amitraz); 33399-00-7 (Bromfenvinfos); 33813-20-6 (Etem); 34218-61-6 (Juvenile hormone II); 34264-24-9 (Promacyl); 34462-96-9 (Halacrinate); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 34849-42-8 (Cyclafuramide); 35367-31-8 (Penfluron); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35575-96-3 (Azamethiphos); 35764-59-1 (Cismethrin); 36145-08-1 (Chlorprazophos); 36519-00-3 (Phosdiphen); 36614-38-7 (Isothioate); 36734-19-7 (Iprodione); 37032-15-8 (Sophamide); 38083-17-9 (Climbazole); 38260-54-7 (Etrimfos); 38260-63-8 (Lirimfos); 38524-82-2 (Trifenofos); 38527-91-2 (Etaphos); 39196-18-4 (Thiofanox); 39247-96-6 (Primidophos); 39300-45-3 (Dinocap); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin);

40085-57-2 (Tazimcarb); 40341-04-6 (Rabenzazole); 40596-69-8 (Methoprene); 40596-80-3 (Triprene); 40626-35-5 (Heterophos); 41096-46-2 (Hydroprene); 41198-08-7 (Profenofos); 41219-31-2 (Dithicrofos); 41219-32-3 (Thicrofos); 41483-43-6 (Bupirimate); 41495-67-4 (Hexylthiofos); 41814-78-2 (Tricyclazole); 42509-80-8 (Isazofos); 42588-37-4 (Kinoprene); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 50642-14-3 (Validamycin); 51308-54-4 (Buthiobate); 51487-69-5 (Cloethocarb); 51596-10-2 (Milbemectin); 51630-58-1 (Fenvalerate); 51877-74-8 (Biopermethrin); 52315-07-8; 52645-53-1; 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 53878-17-4 (Furophanate); 53988-93-5 (Mancopper); 54406-48-3 (Empenthrin); 54864-61-8 (Myclozolin); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55285-14-8 (Carbosulfan); 55406-53-6; 55965-84-9 (Kathon WT); 56716-21-3 (Hyquincarb); 57018-04-9 (Tolclofos-methyl); 57342-02-6 (Epofenonane); 57369-32-1 (Pyroquilon); 57646-30-7 (Furalaxyl); 57808-65-8 (Closantel); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58481-70-2 (Dicresyl); 58810-48-3 (Ofurace); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 60207-31-0 (Azaconazole); 60207-90-1; 60207-93-4 (Etaconazole); 60238-56-4 (Chlorthiophos); 60568-05-0 (Furmecyclox); 60589-06-2 (Metoxadiazone); 61019-78-1 (Fenapanil); 61444-62-0 (Nifluridide); 61566-21-0 (Quinazamid); 61949-77-7; 62732-91-6 (Debacarb); 62865-36-5 (Diclomezine); 63284-71-9 (Nuarimol); 63755-05-5 (Chlobenthiazone); 63771-69-7 (Zolaprofos); 63837-33-2 (Diofenolan); 63935-38-6 (Cycloprothrin); 64359-81-5; 64440-88-6 (Polycarbamate); 64628-44-0 (Triflumuron); 65383-73-5 (Precocene III); 65400-98-8 (Fenoxacrim); 65691-00-1 (Triarathene); 65907-30-4 (Furathiocarb); 66063-05-6 (Pencycuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 66841-25-6 (Tralomethrin); 66952-49-6 (Methasulfocarb); 67306-00-7 (Fenpropidin); 67375-30-8 (Alpha-cypermethrin); 67485-29-4 (Hydramethylnon); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5; 68523-18-2 (Fenpirithrin); 68694-11-1 (Triflumizole); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70017-93-5 (Isovaledione); 70124-77-5 (Flucythrinate); 70166-48-2 (Pyroxyfur); 70193-21-4 (Trichlamide); 70288-86-7 (Ivermectin); 70630-17-0 (Metalaxyl-M); 70751-94-9 (Tioxymid); 71422-67-8 (Chlorfluazuron); 71626-11-4 (Benalaxyl); 71697-59-1 (Theta-cypermethrin); 71751-41-2 (Abamectin); 72459-58-6 (Triazoxide); 72490-01-8 (Fenoxycarb); 72963-72-5 (Imiprothrin); 74738-17-3 (Fenpiclonil); 75736-33-3 (Diclobutrazol); 75867-00-4 (Fenfluthrin); 76280-91-6 (Tecloftalam); 76674-21-0 (Flutriafol); 76703-62-3 (Gamma-cyhalothrin); 77732-09-3 (Oxadixyl); 79538-32-2 (Tefluthrin); 79622-59-6 (Fluazinam); 79983-71-4 (Hexaconazole); 80060-09-9 (Diafenthiuron); 80844-07-1 (Etofenprox); 81412-43-3 (Tridemorph); 82560-54-1 (Benfuracarb); 82657-04-3; 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 83657-17-4 (Uniconazole-P); 83657-18-5 (Diniconazole-M); 83657-22-1 (Uniconazole); 83657-24-3 (Diniconazole); 83733-82-8 (Fosmethilan); 84332-86-5 (Chlozolinate); 84527-51-5 (Zarilamide); 85509-19-9 (Flusilazole); 86479-06-3 (Hexaflumuron); 86598-92-7 (Imibenconazole); 87130-20-9 (Diethofencarb); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 89269-64-7 (Ferimzone); 89784-60-1 (Pyraclofos); 90338-20-8 (Butathiofos); 91315-15-0 (Aldimorph); 91465-08-6; 94361-06-5; 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Tebupirimfos); 96489-71-3 (Pyridaben); 98243-83-5 (Benalaxyl-M); 98968-92-4; 101007-06-1 (Acrinathrin); 101463-69-8 (Flufenoxuron); 101903-30-4 (Pefurazoate); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 103782-08-7 (Allosamidin); 103970-75-8 (Quinconazole); 104030-54-8 (Carpropamid); 104078-12-8 (Dinocton); 105024-66-6 (Silafluofen); 105779-78-0 (Pyrimidifen); 106917-52-6 (Flusulfamide); 107534-96-3; 107713-58-6 (Flufenprox); 108173-90-6 (Guazatine); 110235-47-7 (Mepanipyrim); 110488-70-5 (Dimethomorph); 111872-58-3 (Halfenprox); 111988-49-9 (Thiacloprid); 112143-82-5 (Triazamate); 112226-61-6 (Halofenozide); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 112636-83-6 (Dicyclanil); 112839-33-5 (Furconazole); 113036-88-7 (Flucycloxuron); 113507-06-5 (Moxidectin); 114369-43-6 (Fenbuconazole); 115852-48-7 (Fenoxanil); 116170-30-0 (Thicyofen); 116255-48-2 (Bromuconazole); 116714-46-6 (Novaluron); 117428-22-5 (Picoxystrobin); 117704-25-3 (Doramectin); 118134-30-8 (Spiroxamine); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenoconazole); 119544-94-4 (Protrifenbute); 120068-37-3; 120116-88-3 (Cyazofamid); 121451-02-3 (Noviflumuron); 121552-61-2 (Cyprodinil); 122453-73-0 (Chlorfenapyr); 123572-88-3 (Furametpyr); 124495-18-7 (Quinoxyfen); 125116-23-6 (Metconazole); 125225-28-7 (Ipconazole); 126448-41-7 (Acibenzolar); 126833-17-8

(Fenhexamid); 129496-10-2; 129558-76-5 (Tolfenpyrad); 130000-40-7 (Thifluzamide); 130339-07-0 (Diflumetorim); 131341-86-1 (Fludioxonil); 131807-57-3 (Famoxadone); 131860-33-8 (Azoxystrobin); 131983-72-7 (Triticonazole); 133408-50-1 (Metominostrobin); 133855-98-8 (Epoxiconazole); 134074-64-9 (Oxpoconazole); 135410-20-7 (Acetamiprid); 136426-54-5 (Fluquinconazole); 138261-41-3; 139920-32-4 (Diclocymet); 140923-17-7 (Iprovalicarb); 141517-21-7 (Trifloxystrobin); 143390-89-0 (Kresoxim-methyl); 143807-66-3 (Chromafenozide); 145767-97-1 (Vaniliprole); 148788-55-0 (Didecyldimethylammonium carbonate); 149508-90-7 (Simeconazole); 149961-52-4 (Dimoxystrobin); 150824-47-8 (Nitenpyram); 153719-23-4 (Thiamethoxam); 154025-04-4 (Flumetover); 156052-68-5 (Zoxamide); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 161326-34-7 (Fenamidone); 162650-77-3 (Ethaboxam); 165252-70-0 (Dinotefuran); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 175013-18-0 (Pyraclostrobin); 175217-20-6 (Silthiofam); 178928-70-6 (Prothioconazole); 179101-81-6 (Pyridalyl); 180409-60-3 (Cyflufenamid); 181587-01-9 (Ethiprole); 188425-85-6 (Boscalid); 189278-12-4 (Proquinazid); 209861-58-5 (Acetoprole); 210880-92-5 (Clothianidin); 211867-47-9 (Flumorph); 220119-17-5 (Selamectin); 220899-03-6 (Metrafenone); 223419-20-3 (Profluthrin); 223580-51-6 (Tiadinil); 240494-70-6 (Metofluthrin); 248593-16-0 (Orysastrobin); 271241-14-6 (Dimefluthrin); 283594-90-1 (Spiromesifen); 361377-29-9 (Fluoxastrobin); 413615-35-7 (Benthiavalicarb) Role: BUU (Biological use, unclassified), TEM (Technical or engineered material use), BIOL (Biological study), USES (Uses) (micronized wood preservative formulations comprising inorg. metal compds. and org. biocides); 1643-20-5 (Dimethyldodecylamine oxide); 7128-91-8 (Dimethylhexadecylamine oxide) Role: MOA (Modifier or additive use), USES (Uses) (micronized wood preservative formulations comprising inorg. metal compds. and org. biocides)
Patent Application Country: Application: US
Priority Application Country: US
Priority Application Number: 2003-461547
Priority Application Date: 20030409 The wood preservative compns. comprising micronized particles. The compn. comprises dispersions of micronized metal or metal compds. The wood preservative compn. comprises an inorg. component comprising a metal or metal compd. and org. biocide. When the compn. comprises an inorg. component and an org. biocide, the inorg. component or the org. biocide or both are present as micronized particles. When used for preservation of wood, the micronized particles can be obsd. as uniformly distributed within the wood and there is minimal leaching of the metal and biocide from the wood. [on SciFinder (R)] B32B021-02. B32B021-10; A61K033-24; A61K033-34. metal/ compd/ org/ biocide/ micronized/ wood/ preservative/ formulation

744. Leandro, Cristiana C., Bishop, Dawn A., Fussell, Richard J., Smith, Frankie D., and Keely, Brendan J (2006). Semiautomated Determination of Pesticides in Water Using Solid Phase Extraction Disks and Gas Chromatography-Mass Spectrometry. *Journal of Agricultural and Food Chemistry* 54: 645-649.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2006:35505
Chemical Abstracts Number: CAN 144:134467
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Gas chromatography; Mass spectrometry; Pesticides; Process automation (semiautomated detn. of pesticides in water using solid phase extn. disks and gas chromatog.-mass spectrometry)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (semiautomated detn. of pesticides in water using solid phase extn. disks and gas

chromatog.-mass spectrometry); 50-29-3; 58-89-9 (g-HCH); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 99-30-9 (Dicloran); 101-21-3 (Chloropropham); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 133-06-2 (Captan); 309-00-2 (Aldrin); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 959-98-8 (Endosulfan I); 1031-07-8 (Endosulfansulfate); 1085-98-9 (Dichlofluanid); 1582-09-8 (Trifluralin); 1634-78-2 (Malaoxon); 1861-32-1 (Chlorthal-dimethyl); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2921-88-2 (Chloropyrifos); 3424-82-6; 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5598-13-0; 5915-41-3 (Terbuthylazine); 10552-74-6 (Nitrothal-isopropyl); 15299-99-7 (Napropamide); 18181-80-1 (Bromopropylate); 19937-59-8 (Metoxuron); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22248-79-9; 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23950-58-5 (Propyzamide); 25311-71-1 (Isofenphos); 26225-79-6 (Ethofumesate); 27304-13-8 (Oxychlordane); 28044-83-9 (trans-Heptachlor epoxide); 29232-93-7 (Pirimiphos-methyl); 30864-28-9 (Methacrifos); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan II); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 50471-44-8 (Vinclozolin); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 58810-48-3 (Ofurace); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 61213-25-0; 66246-88-6 (Penconazole); 68359-37-5 (Cyfluthrin); 70124-77-5 (Flucythrinate); 76703-62-3; 76738-62-0 (Paclobutrazol); 77732-09-3 (Oxadixyl); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 88671-89-0 (Myclobutanil); 107534-96-3 (Tebuconazole); 131860-33-8 (Azoxystrobin); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), ANST (Analytical study) (semiautomated detn. of pesticides in water using solid phase extn. disks and gas chromatog.-mass spectrometry); 51630-58-1 (Fenvalerate) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (semiautomated detn. of pesticides in water using solid phase extn. disks and gas chromatog.-mass spectrometry); 41483-43-6 (Bupirimate); 82657-04-3 (Bifenthrin) Role: POL (Pollutant), OCCU (Occurrence) (semiautomated detn. of pesticides in water using solid phase extn. disks and gas chromatog.-mass spectrometry)
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Citations: 9) Pichon, V; Anal Mag 1998, 26(6), 91
Citations: 10) Hennion, M; J Chromatogr A 2000, 885, 73
Citations: 11) Bossi, R; J Chromatogr A 2002, 957, 27
Citations: 12) Anonymous; Application Note 2005, 114AP43
Citations: 13) Viana, E; J Chromatogr A 1996, 733, 267
Citations: 14) Munch, J; EPA Method 525.2, Revision 2.0 1995, 1 A method based on semiautomated solid phase extn. using octadecyl-bonded silica disks and gas chromatog.-mass spectrometry, operated in selected ion monitoring mode, allows detection and quantification of .apprx.100 pesticides and transformation products in drinking water. Samples (500 mL) were passed through the disk, and the retained pesticides were eluted with acetone and Et acetate. Typical recoveries for pesticides at 0.1 mg/L in water were 72-120% with relative std. deviations <20%. Calibration curves were linear over 0.025-0.5 mg/mL (equiv. to a concn. in drinking water of 0.05-1.0 mg/L). [on SciFinder (R)] 0021-8561 semiautomation/ pesticide/ water/ detn;/ solid/ phase/ extn/ disk/ gas/ chromatog/ mass/ spectrometry

745. Lebel, G. L., Williams, D. T., and Benoit, F. M. (1987). Use of Large-Volume Resin Cartridges for the

Determination of Organic Contaminants in Drinking Water Derived From the Great Lakes. *Suffet, i. H. And m. Malaiyandi (ed.). Advances in chemistry series, 214. Organic pollutants in water: sampling, analysis, and toxicity testing* Symposium held at the 188th meeting of the american chemical society, philadelphia, pennsylvania, usa, august 29-31, 1984. Xvi+797p. American chemical society: washington, d.c., Usa. Illus. Isbn 0-8412-0951-0.; 0: 309-326.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM USA CANADA WATER POLLUTION
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
KEYWORDS: General Biology-Symposia
KEYWORDS: Ecology
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
LANGUAGE: eng

746. LeBel, Guy L., Williams, David T., Griffith, Georgina, and Benoit, Frank M (1979). Isolation and concentration of organophosphorus pesticides from drinking water at the ng/L level, using macroreticular resin. *Journal - Association of Official Analytical Chemists* 62: 241-9.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1979:409238
Chemical Abstracts Number: CAN 91:9238
Section Code: 61-1
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of organophosphorus, in drinking water, gas chromatog.)
CAS Registry Numbers: 56-38-2; 60-51-5; 121-75-5; 122-14-5; 298-00-0; 299-84-3; 299-86-5; 333-41-5; 563-12-2; 732-11-6; 950-37-8; 962-58-3; 2104-64-5; 2310-17-0; 2921-88-2; 13171-21-6 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in drinking water, gas chromatog.); 9060-05-3 Role: OCCU (Occurrence) (in organophosphorus pesticide removal from drinking water for gas chromatog. detn.); 7732-18-5 Role: ANST (Analytical study) (organophosphorus pesticide detn. in drinking, adsorption on macroreticular resin followed by gas chromatog. in) A screening method was developed for detg. organophosphorus pesticides at ng/L levels in drinking water. The pesticides are removed by Amberlite XAD-2 [9060-05-3] resin from drinking water and eluted with 15:85 Me2CO-hexane. The concd. ext. is analyzed by gas chromatog. using a N-P selective detector and by gas chromatog.-mass spectrometry using selected ion monitoring. Recoveries at 10 and 100 ng/L levels were >90%, except for dimethoate [60-51-5] and b-

phosphamidon [13171-21-6] which were 37 and 42%, resp. The anal. of Ottawa tap water showed no detectable amts. (<1 ng/L) of any of 16 organophosphorus pesticides evaluated. [on SciFinder (R)] 0004-5756 pesticide/ detn/ drinking/ water

747. LeBlanc, G. A. (1984). Interspecies Relationships in Acute Toxicity of Chemicals to Aquatic Organisms. *Environ.Toxicol.Chem.* 3: 47-60.
Chem Codes: EcoReference No.: 45025
Chemical of Concern: Ni,Cu,Pb,Cd,Se,Zn,Ag,PSM Rejection Code: REFS CHECKED/REVIEW.

748. Lee, B. L., New, A. L., Kok, P. W., Ong, H. Y., Shi, C. Y., and Ong, C. N. (Urinary Trans,Trans-Muconic Acid Determined by Liquid Chromatography: Application in Biological Monitoring of Benzene Exposure. *Clin chem. 1993, sep; 39(9):1788-92. [Clinical chemistry]: Clin Chem.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, HUMAN HEALTH.

ABSTRACT: We describe a sensitive and specific high-performance liquid-chromatographic method for determining the benzene metabolite, trans,trans-muconic acid (ttMA) in urine by measuring ultraviolet absorbance at 265 nm. We mix 1 mL of urine sample with 2 mL of Tris buffer containing vanillic acid as internal standard (IS) and percolate this through a preconditioned ion-exchange column. After rinsing the column with phosphoric acid solution, acetate buffer, and deionized water, we elute the analytes with 2 mL of an equivolume solution of 1.5 mol/L sodium chloride and methanol. Of this, 5 microL is injected into the HPLC column. The mobile phase used consists of, per liter, 10 mL of acetic acid, 100 mL of methanol, and the rest 5 mmol/L sodium acetate. The flow rate was started at 1 mL/min and increased to 1.5 mL/min after 6 min. ttMA and IS were detected at 5.2 and 10.2 min, respectively. The lowest detection limit is 125 pg. Analytical recovery and reproducibility generally exceeded 90%. We validated the method with urine samples collected from normal persons and from refinery workers exposed to benzene concentrations < 1 microL/L. The results show that urinary ttMA is a promising biological marker for risk assessment of low-concentration benzene exposure.
MESH HEADINGS: Benzene/*metabolism
MESH HEADINGS: Chromatography, High Pressure Liquid
MESH HEADINGS: Chromatography, Ion Exchange
MESH HEADINGS: Environmental Monitoring/*methods
MESH HEADINGS: Humans
MESH HEADINGS: Reference Standards
MESH HEADINGS: Sorbic Acid/*analogs &amp
MESH HEADINGS: derivatives/analysis
MESH HEADINGS: Urine/chemistry
MESH HEADINGS: Vanillic Acid/analysis
LANGUAGE: eng

749. Lee, H. R., Na, S. Y., Park, H. M., and Kwon, Y. W. (1986). Control Efficacy of the Several Insecticides on the Dominant Aphids of Apple Tree and Vegetables. *Res rep rural dev adm (suweon); 28 (2 plant environ. Mycol. And farm prod. Util.). 1986 (recd. 1987). 60-64.* 28: 60-64.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM APHIS-CITRICOLA MYZUS-MALISUCTUS MYZUS-PERSICAE APHIS-GOSSYPII LIPAPHIS-ERYSIMI CHINESE CABBAGE METHOMYL DELTAMETHRIN CYPERMETHRIN METHIDATHION PHOSPHAMIDON MONOCROTOPHOS OMETHOATE ACEPHATE CHLORPYRIFOS HEPTENOPHOS EPN PHOSMET PROFENOFOS TRIAZOPHOS PIRIMICARB
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS

MESH HEADINGS: VEGETABLES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS
MESH HEADINGS: PLANTS, MEDICINAL
MESH HEADINGS: INSECTS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Horticulture-Vegetables
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-General
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Cruciferae
KEYWORDS: Rosaceae
KEYWORDS: Homoptera
LANGUAGE: kor

750. Lee, S. Mark, Papathakis, Michael L., Feng, Hsiao Ming C., Hunter, Gary F., and Carr, Joyce E (1991). Multipesticide residue method for fruits and vegetables: California Department of Food and Agriculture. *Fresenius' Journal of Analytical Chemistry* 339: 376-83.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:227561
Chemical Abstracts Number: CAN 114:227561
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in fresh fruits and vegetables by GLC and HPLC); Chromatography (of pesticides); Broccoli; Carrot; Fruit; Melon; Orange; Potato; Tomato; Vegetable (pesticides detn. in, by GLC and HPLC); Chromatography (high-performance, of pesticides)
CAS Registry Numbers: 56-38-2 (Parathion); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-55-9 (p,p'-DDE); 86-50-0 (Azinphos-methyl); 99-30-9 (Dichloran); 115-29-7; 298-01-1 (cis-Mevinphos); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1563-66-2 (Carbofuran); 1646-87-3; 1646-88-4; 1861-32-1 (Chlorthal-Dimethyl);

1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 16752-77-5 (Methomyl); 23135-22-0 (Oxamyl); 33213-65-9 (Endosulfan II) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in fresh fruits and vegetables by GLC and HPLC) An aliquot of chopped fresh sample is blended with acetonitrile. The resulting aq. acetonitrile ext. is filtered and cleaned up via reverse-phase solid extn. app. The pH of the filtrate is adjusted to neutral using phosphate buffer and the acetonitrile layer is sepd. from the aq. layer by a salting out process. An aliquot of the acetonitrile layer is concd. with a K-D evaporator by forming an azeotrope with n-hexane. The prepd. sample is assayed for pesticide residues using GLC and HPLC. The performance of this method was evaluated by fortifying 6 representative fruits and vegetables with 7 chlorinated hydrocarbons. 7 Organophosphate and 7 N-methylcarbamate pesticides at 0.1-0.2 ppm. No matrix interference was obsd. and the recovery of residues varied among different samples as well as different pesticides. Chlorothalonil results varied widely with irreproducible recoveries. In general, the method appears to be fast, rugged, and able to detect routinely at the 0.01 ppm level. [on SciFinder (R)] 0937-0633 pesticide/ detn/ fruit/ vegetable;/ chromatog/ pesticide;/ gas/ chromatog/ pesticide;/ HPLC/ pesticide

751. Legierse, Karin C. H. M., Verhaar, Henk J. M., Vaes, Wouter H. J., De Bruijn, Jack H. M., and Hermens, Joop L. M (1999). Analysis of the Time-Dependent Acute Aquatic Toxicity of Organophosphorus Pesticides: The Critical Target Occupation Model. *Environmental Science and Technology* 33: 917-925.
Chem Codes : Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:87301
Chemical Abstracts Number: CAN 130:248090
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Guppy; Lymnaea stagnalis; Simulation and Modeling (anal. of time-dependent acute aquatic toxicity of organophosphorus pesticides: crit. target occupation model); Toxicity (aquatic; anal. of time-dependent acute aquatic toxicity of organophosphorus pesticides: crit. target occupation model); Pesticides (organophosphorus; anal. of time-dependent acute aquatic toxicity of organophosphorus pesticides: crit. target occupation model)
CAS Registry Numbers: 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 500-28-7 (Chlorthion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2597-03-7 (Phenthoate) Role: ADV (Adverse effect, including toxicity), BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (anal. of time-dependent acute aquatic toxicity of organophosphorus pesticides: crit. target occupation model)
Citations: 1) van Wezel, A; Crit Rev Toxicol 1995, 25, 255
Citations: 2) McCarty, L; Environ Toxicol Chem 1986, 5, 1071
Citations: 3) McCarty, L; Environmental Toxicology-II 1987, 207
Citations: 4) van Hoogen, G; Environ Toxicol Chem 1988, 7, 213
Citations: 5) McCarty, L; Environ Toxicol Chem 1992, 11, 917
Citations: 6) Sijm, D; Handbook of Environmental Chemistry
Citations: 7) McCarty, L; Environ Sci Technol 1993, 27, 1719
Citations: 8) Fukuto, T; Environ Health Perspect 1990, 87, 245
Citations: 9) Chambers, H; Organophosphates Chemistry fate and effects 1992, 3
Citations: 10) Wallace, K; Organophosphates Chemistry fate and effects 1992, 79
Citations: 11) Ecobichon, D; Pesticides and Neurological Diseases 1994, 171
Citations: 12) Allison, D; Use of exposure units for estimating aquatic toxicity of organophosphorus pesticides 1977
Citations: 13) Jarvinen, A; Ecotoxicol Environ Saf 1983, 7, 423
Citations: 14) Detra, R; Environ Toxicol Chem 1991, 10, 1089
Citations: 15) Legierse, K; Environ Toxicol Chem

Citations: 16) Kooijman, S; Water Res 1981, 15, 107
Citations: 17) De Vries, J; Toxicology:Principles and Applications 1996, 136
Citations: 18) Musch, A; Toxicology:Principles and Applications 1996, 184
Citations: 19) Hermens, J; Handbook of Environmental Chemistry 1989, 2E, 111
Citations: 20) McCarty, L; Environmental Toxicology-II 1987, 221
Citations: 21) Spacie, A; Environ Toxicol Chem 1982, 1, 309
Citations: 22) Keizer, J; Aquat Toxicol 1991, 21, 239
Citations: 23) Main, A; Science 1964, 144, 992
Citations: 24) Wallace, K; Toxicol Appl Pharmacol 1988, 92, 307
Citations: 25) Habig, C; Cholinesterase-inhibiting Insecticides-Their Impact on Wildlife and the Environment 1991, 2, 20
Citations: 26) Carr, R; Toxicol Appl Pharmacol 1996, 139, 365
Citations: 27) Straus, D; Aquat Toxicol 1995, 33, 311
Citations: 28) Thompson, H; Comp Biochem Physiol 1995, 111C, 1
Citations: 29) Barron, M; Aquat Toxicol 1990, 18, 61
Citations: 30) Ohayo-Mitoko, G; Sci Total Environ 1993, Suppl, 559
Citations: 31) De Bruijn, J; Environ Toxicol Chem 1991, 10, 791
Citations: 32) Legierse, K; Aquat Toxicol 1998, 41, 301
Citations: 33) De Bruijn, J; Sci Tot Environ 1991, 109
Citations: 34) Sijm, D; Environ Toxicol Chem 1993, 12, 1117
Citations: 35) De Bruijn, J; Aquat Toxicol 1991, 20, 112
Citations: 36) Gerritsen, A; Ecotoxicol Environ Saf 1998, 39, 227
Citations: 37) van Den Heuvel, M; Aquat Toxicol 1991, 20, 235
Citations: 38) Smith, A; Chemosphere 1990, 20, 379
Citations: 39) Slooff, W; Aquat Toxicol 1983, 4, 113 A model is presented for the acute toxicity of organophosphorus (OP) pesticides belonging to the class of phosphorothionates. The acute toxicity of these pesticides is governed by the irreversible inhibition of the enzyme acetylcholinesterase (AChE), after their metabolic activation to oxon analogs. The model is based on the idea that, for chems. exhibiting an irreversible receptor interaction, mortality is assocd. with a crit. amt. of \"covalently occupied\" target sites, i.e., the \"crit. target occupation\" (CTO). For a given compd. and species, this CTO is assocd. with a crit. time-integrated concn. of the oxon analog in the target tissue, which can be modeled by the crit. area under the curve (CAUC) that describes the time-concn. course of the phosphorothionate in the aq. phase or in the entire aquatic organism. In contrast to the classical crit. body residue (CBR) model, the CTO model successfully describes the 1-14-d LC50(t) data of several phosphorothionates in the pond snail and guppy. Furthermore, the time dependency of lethal body burdens (LBBs) of phosphorothionates is explained by the model. Although the CTO model is specifically derived for OP pesticides, it can be applied to analyze the acute toxicity and to est. incipient LC50 values of org. chems. that exert an irreversible receptor interaction in general. [on SciFinder (R)] 0013-936X aquatic/ toxicity/ organophosphorus/ pesticide/ model

752. Lehner, Dieter, Zipper, Peter, Henriksson, Gunnar, and Pettersson, Goran (1996). Small-angle X-ray scattering studies on cellobiose dehydrogenase from Phanerochaete chrysosporium. *Biochimica et Biophysica Acta (BBA) - Protein Structure and Molecular Enzymology* 1293: 161-169.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

Limited proteolysis of cellobiose dehydrogenase (CDH) from the white rot fungus Phanerochaete chrysosporium by papain cleaves the enzyme into two fragments containing flavin (FAD) and heme, respectively. Small-angle X-ray scattering (SAXS) was employed to investigate size and shape of intact CDH and of its fragments in solution. The largest dimension of CDH amounts to about 18 nm, whereas the corresponding quantity of each of the two fragments is only around 9 nm. CDH as well as its fragments appear to be of prolate shape, the cross-section of the FAD fragment (diameter 4.3 to 5.1 nm) being considerably larger than that of the heme fragment (diameter 3.3 nm). These findings suggest a collinear arrangement of the two domains in the CDH particle. Simulations based on the method of finite elements corroborate this structure model and furthermore suggest the existence of a possibly flexible linker between the two domains

Cellobiose dehydrogenase/ Cellobiose oxidase/ FAD fragment/ Heme fragment/ Small-angle X-ray scattering/ Shape/ (P. chrysosporium) http://www.sciencedirect.com/science/article/B6T21-3VXHM96-R/2/e06485900ea2351e29472999868f8531

753. Lehotay, S. J., Harman-Fetcho, J. A., and Mcconnell, L. L. (1998). Agricultural Pesticide Residues in Oysters and Water From Two Chesapeake Bay Tributaries. *Marine pollution bulletin* 37: 32-44.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Little is known of the impact of agricultural activity on oysters in Chesapeake Bay tributaries. As a preliminary assessment of pesticide residues in oyster tissues, this study monitored more than 60 pesticides in oysters and overlying water in two tributaries of the Chesapeake Bay. Paired water and oyster samples were collected throughout 1997 from the Patuxent and Choptank Rivers which discharge into opposite shores of the Chesapeake Bay in Maryland. In water, herbicides such as atrazine, simazine, cyanazine, and metolachlor were present throughout the year with individual water concentrations peaking as high as 430 ng/l in the late spring and summer and subsiding in the fall. These herbicides were not detected in the oysters even when concentrations were highest in the water. Another herbicide, trifluralin, was detected throughout the year at concentrations of less than 0.6 ng/l and 0.4 ng/g (wet weight) in water and oyster samples, respectively. Several insecticides
MESH HEADINGS: ECOLOGY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: MOLLUSCA
KEYWORDS: Ecology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Pelecypoda
LANGUAGE: eng

754. Lehotay, S. J. and Lee, C. H. (1997). Evaluation of a Fibrous Cellulose Drying Agent in Supercritical Fluid Extraction and Pressurized Liquid Extraction of Diverse Pesticides. *Journal of chromatography a* 785: 313-327.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A fibrous cellulose powder (CF-1) was investigated as a drying agent for supercritical fluid extraction (SFE) and pressurized liquid extraction (PLE), also known as accelerated solvent extraction. Analysis of fifty-eight diverse pesticides was performed using gas chromatography-ion-trap mass spectrometric detection (GC-ITD). Extraction efficiencies were correlated versus pesticide polarity with samples of different water-CF-1 ratios. The effect of water was much more pronounced in SFE using CO_2 than PLE using acetonitrile, Pesticide recoveries and limits of detection of fortified tomato samples mixed with CF-1 were determined. PLE gave recoveries $> 80\%$ for nearly all pesticides, and SFE gave similar recoveries except for the most polar and non-polar pesticides. SFE typically gave lower detection limits than PLE due to fewer matrix interferants.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Toxicology-General
LANGUAGE: eng

755. Lehotay, Steven J., Anaronson, Nadav, Pfeil, Emy, and Ibrahim, Medina A (1995). Development of a sample preparation technique for supercritical fluid extraction for multiresidue analysis of pesticides in produce. *Journal of AOAC International* 78: 831-40.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:580215
Chemical Abstracts Number: CAN 123:8124
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Plant analysis (crop; technique for supercrit. fluid extn. for multiresidue anal. of pesticides in produce); Food analysis; Orange; Peach; Pesticides; Potato (technique for supercrit. fluid extn. for multiresidue anal. of pesticides in produce)
CAS Registry Numbers: 50-29-3 (DDT); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-55-9 (DDE); 82-68-8 (PCNB); 86-50-0 (Azinphos-methyl); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 118-74-1 (HCB); 121-75-5 (Malathion); 122-39-4 (Diphenylamine); 298-00-0 (Parathion-Methyl); 298-01-1 (a-Mevinphos); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 333-41-5 (Diazinon); 563-12-2 (Ethion); 608-93-5 (PCB); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1563-66-2 (Carbofuran); 1861-32-1 (Dacthal); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2921-88-2 (Chlorpyrifos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 36734-19-7 (Iprodione); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 61949-76-6 (cis-Permethrin); 66230-04-4 (Esfenvalerate) Role: ANT (Analyte), PEP (Physical, engineering or chemical process), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence), PROC (Process) (technique for supercrit. fluid extn. for multiresidue anal. of pesticides in produce); 124-38-9 (Carbon dioxide) Role: ARU (Analytical role, unclassified), PEP (Physical, engineering or chemical process), ANST (Analytical study), PROC (Process) (technique for supercrit. fluid extn. for multiresidue anal. of pesticides in produce) Supercrit. fluid extn. (SFE) of fruits and vegetables poses unique sample prepn. considerations because the sample size is small (1-3 g) and the analyte is distributed in a moist solid matrix. The goal of this research was to develop practical sample prepn. procedures for SFE of pesticide residues in produce so that acceptable accuracy and precision are maintained. In this study, 130 extns. of potato, fortified with up to 40 pesticides, were performed with 2 com. SFE instruments. Exts. were analyzed by gas chromatog. with ion trap mass spectrometry or electron capture detection. Four sample prepn. procedures were tested and Hydromatrix was used to control the amt. of water in the sample. The highest recoveries and lowest std. deviations were obtained when 20-50 g samples were blended with an equal amt. of Hydromatrix and dry ice was added to keep the samples frozen. The dry ice helped produce a homogeneous flowable powder and greatly reduced the degrdn. or vaporization of several pesticides. Recoveries of most pesticides from subsamples of <4 g with this procedure were 90-105%, with relative std. deviations of 1-6%. Only diphenylamine and disulfoton gave reduced recoveries with this procedure. When samples were extd. sequentially with an autosampler, certain pesticides were degraded in the extn. vessels over a period of several hours. To avoid losses of these pesticides, the sample in the extn. vessel was either purged with CO_2 to remove oxygen or kept frozen until extd. Peach and orange check samples were analyzed with the method, and results were comparable with those from traditional analyses. [on SciFinder (R)]
1060-3271 food/ pesticide/ extn/ detn/ supercrit/ fluid

756. Lehotay, Steven J., De Kok, Andre, Hiemstra, Maurice, and Van Bodegraven, Peter (2005). Validation of a fast and easy method for the determination of residues from 229 pesticides in fruits and vegetables using gas and liquid chromatography and mass spectrometric detection. *Journal of AOAC International* 88: 595-614.

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2005:304458
Chemical Abstracts Number: CAN 143:58682
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Citrus reticulata (Clementine; validation of fast and easy method for detn. of residues from 229 pesticides in fruits and vegetables using gas and liq. chromatog. and mass spectrometric detection); Tandem mass spectrometry (electrospray-ionization; validation of fast and easy method for detn. of residues from 229 pesticides in fruits and vegetables using gas and liq. chromatog. and mass spectrometric detection); Mass spectrometry (gas chromatog. combined with; validation of fast and easy method for detn. of residues from 229 pesticides in fruits and vegetables using gas and liq. chromatog. and mass spectrometric detection); Capsicum annuum annuum (grossum group; validation of fast and easy method for detn. of residues from 229 pesticides in fruits and vegetables using gas and liq. chromatog. and mass spectrometric detection); Gas chromatography (mass spectrometry combined with; validation of fast and easy method for detn. of residues from 229 pesticides in fruits and vegetables using gas and liq. chromatog. and mass spectrometric detection); Electrospray ionization mass spectrometry (tandem; validation of fast and easy method for detn. of residues from 229 pesticides in fruits and vegetables using gas and liq. chromatog. and mass spectrometric detection); Citrus limon; Citrus sinensis; Cucumis melo; Daucus carota; Food contamination; Fragaria ananassa; Fruit; Lactuca sativa; Malus pumila; Orange; Persea americana; Pesticides; Prunus domestica; Prunus persica; Reversed phase liquid chromatography; Solanum melongena; Spinacia oleracea; Vegetable; Vitis vinifera (validation of fast and easy method for detn. of residues from 229 pesticides in fruits and vegetables using gas and liq. chromatog. and mass spectrometric detection)
CAS Registry Numbers: 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorphon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 85-41-6 (Phthalimide); 86-50-0 (Azinphos-methyl); 90-43-7 (o-Phenylphenol); 90-98-2; 92-52-4 (Diphenyl); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5; 122-39-4 (Diphenylamine); 122-42-9 (Propham); 133-06-2 (Captan); 133-07-3 (Folpet); 137-26-8 (Thiram); 141-66-2 (Dicrotophos); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 301-12-2 (Oxydemeton-methyl); 309-00-2 (Aldrin); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 563-12-2 (Ethion); 640-15-3 (Thiometon); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 919-86-8 (Demeton-S-methyl); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1593-77-7 (Dodemorph); 1596-84-5 (Daminozide); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1746-81-2 (Monolinuron); 1861-32-1 (Chlorthaldimethyl); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2179-25-1 (Methiocarb sulfone); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2635-10-1 (Methiocarb sulfoxide); 2703-37-9 (Thiometon sulfoxide); 2921-88-2 (Chlorpyrifos); 3060-89-7 (Metobromuron); 3337-71-1 (Asulam); 3735-33-9 (Phosmet-oxon); 3761-41-9 (Fenthion-sulfoxide); 4710-17-2 (DMSA); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 13749-94-5 (Methomyl-oxime); 16655-82-6; 16752-77-5 (Methomyl); 17040-19-6 (Demeton-S-methyl sulfone); 18181-80-1 (Bromopropylate); 18708-86-6 (a-Chlorfenvinphos); 18708-87-7 (b-Chlorfenvinphos); 18854-01-8 (Isoxathion); 19937-59-8 (Metoxuron); 20300-00-9 (Vamidothion sulfoxide); 20301-63-7 (Thiometon sulfone); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl);

23560-59-0 (Heptenophos); 23564-05-8 (Thiophanate-methyl); 23947-60-6 (Ethirimol); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 27813-21-4 (Tetrahydrophthalimide); 29232-93-7; 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 30614-22-3; 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butocarboxim sulfone); 34681-24-8 (Butocarboxim sulfoxide); 35554-44-0 (Imazalil); 35575-96-3 (Azamethiphos); 36734-19-7 (Iprodione); 39184-27-5 (Thiofanox sulfoxide); 39184-59-3 (Thiofanox sulfone); 39196-18-4 (Thiofanox); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 41483-43-6 (Bupirimate); 41814-78-2 (Tricyclazole); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 53380-22-6 (Ethiofencarb sulfoxide); 53380-23-7 (Ethiofencarb sulfone); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55512-33-9 (Pyridate); 55814-41-0 (Mepronil); 57018-04-9 (Tolclofos-methyl); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58810-48-3 (Ofurace); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 60207-31-0 (Azaconazole); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 60568-05-0 (Furmecyclox); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66063-05-6 (Pencycuron); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 66840-71-9 (DMST); 67306-00-7 (Fenpropidin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68694-11-1 (Triflumizole); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 70898-34-9 (Vamidothion sulfone); 72490-01-8 (Fenoxycarb); 74051-80-2 (Sethoxydim); 74115-24-5 (Clofentezine); 74738-17-3 (Fenpiclonil); 75736-33-3; 76274-46-9 (Oxamyl-oxime); 76738-62-0 (Paclobutrazol); 77732-09-3 (Oxadixyl); 78587-05-0 (Hexythiazox); 79983-71-4 (Hexaconazole); 80844-07-1 (Etofenprox); 81412-43-3 (Tridemorph); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 83657-24-3 (Diniconazole); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 87130-20-9 (Diethofencarb); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 91465-08-6 (l-Cyhalothrin); 94361-06-5 (Cyproconazole); 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 98886-44-3 (Fosthiazate); 101007-06-1 (Acrinathrin); 101205-02-1 (Cycloxydim); 107534-96-3 (Tebuconazole); 110235-47-7 (Mepanipyrim); 110488-70-5 (Dimethomorph); 111988-49-9 (Thiacloprid); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 114369-43-6 (Fenbuconazole); 116255-48-2 (Bromuconazole); 117428-22-5 (Picoxystrobin); 118134-30-8 (Spiroxamine); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenoconazole); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 123312-89-0 (Pymetrozine); 124495-18-7 (Quinoxyfen); 125116-23-6 (Metconazole); 126833-17-8 (Fenhexamid); 131341-86-1 (Fludioxonil); 131807-57-3 (Famoxadone); 131860-33-8 (Azoxystrobin); 133855-98-8 (Epoxiconazole); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 136426-54-5 (Fluquinconazole); 138261-41-3 (Imidacloprid); 140923-17-7 (Iprovalicarb); 141517-21-7 (Trifloxystrobin); 142459-58-3 (Flufenacet); 143390-89-0 (Kresoxim-methyl); 145701-23-1 (Florasulam); 153719-23-4 (Thiamethoxam); 168316-95-8 (Spinosad) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (validation of fast and easy method for detn. of residues from 229 pesticides in fruits and vegetables using gas and liq. chromatog. and mass spectrometric detection)

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Citations: 28) Mastovska, K; Anal Chem (in press) (submitted)
Citations: 29) Mastovska, K; J Chromatogr A 2003, 1000, 153
Citations: 30) Lehotay, S; J Chromatogr A (in press) (submitted)
Citations: 31) Lehotay, S; J AOAC Int 2005, 88, 615
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Citations: 35) Lehotay, S; J AOAC Int 2005, 88, 630 Validation expts. were conducted of a simple, fast, and inexpensive method for the detn. of 229 pesticides fortified at 10-100 ng/g in lettuce and orange matrixes. The method is known as the quick, easy, cheap, effective, rugged, and safe (QuEChERS) method for pesticide residues in foods. The procedure involved the extn. of a 15 g sample with 15 mL acetonitrile, followed by a liq.-liq. partitioning step performed by adding 6 g anhyd. MgSO4 plus 1.5 g NaCl. After centrifugation, the ext. was decanted into a tube contg. 300 mg primary secondary amine (PSA) sorbent plus 1.8 g anhyd. MgSO4, which constituted a cleanup procedure called dispersive solid-phase extn. (dispersive SPE). After a second shaking and centrifugation step, the acetonitrile ext. was transferred to autosampler vials for concurrent anal. by gas chromatog./mass spectrometry with an ion trap instrument and liq. chromatog./tandem mass spectrometry with a triple quadrupole instrument using electrospray ionization. Each anal. method was designed to analyze 144 pesticides, with 59 targeted by both instruments. Recoveries for all but 11 of the analytes in at least one of the matrixes were between 70-120% (90-110% for 206 pesticides), and repeatabilities typically <10% were achieved for a wide range of fortified pesticides, including methamidophos, spinosad, imidacloprid, and imazalil. Dispersive SPE with PSA retained carboxylic acids (e.g., daminozide), and <50% recoveries were obtained for asulam, pyridate, dicofol, thiram, and chlorothalonil. Many actual samples and proficiency test samples were analyzed by the method, and the results compared favorably with those from traditional methods. [on SciFinder (R)] 1060-3271 pesticide/ fruit/ vegetable/ LC/ GC/ tandem/ mass/ spectrometry

757. Lehotay, Steven J. and Eller, Konstantin I (1995). Development of a method of analysis for 46 pesticides in fruits and vegetables by supercritical fluid extraction and gas chromatography/ion trap mass spectrometry. *Journal of AOAC International* 78: 821-30.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1995:580214
Chemical Abstracts Number: CAN 123:8123

Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Chromatography; Food analysis; Fruit; Pesticides; Potato; Vegetable (anal. for 46 pesticides in fruits and vegetables by supercrit. fluid extn. and gas chromatog./ion trap mass spectrometry); Mass spectrometry (ion-trapping, anal. for 46 pesticides in fruits and vegetables by supercrit. fluid extn. and gas chromatog./ion trap mass spectrometry)
CAS Registry Numbers: 50-29-3 (DDT); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-55-9 (DDE); 82-68-8 (PCNB); 86-50-0 (Azinphos-methyl); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 333-41-5 (Diazinon); 563-12-2 (Ethion); 608-93-5 (PCB); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1861-32-1 (Dacthal); 1897-45-6; 1912-24-9 (Atrazine); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2921-88-2 (Chlorpyrifos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 22224-92-6 (Fenamiphos); 33213-65-9 (Endosulfan II); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 61949-76-6 (cis-Permethrin); 66230-04-4 (Esfenvalerate); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), PEP (Physical, engineering or chemical process), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence), PROC (Process) (anal. for 46 pesticides in fruits and vegetables by supercrit. fluid extn. and gas chromatog./ion trap mass spectrometry); 36734-19-7 (Iprodione) Role: ANT (Analyte), PEP (Physical, engineering or chemical process), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence), PROC (Process) (phosaloneanal. for 46 pesticides in fruits and vegetables by supercrit. fluid extn. and gas chromatog./ion trap mass spectrometry); 124-38-9 (Carbon dioxide) Role: ARU (Analytical role, unclassified), PEP (Physical, engineering or chemical process), ANST (Analytical study), PROC (Process) (supercrit.; anal. for 46 pesticides in fruits and vegetables by supercrit. fluid extn. and gas chromatog./ion trap mass spectrometry) A multiresidue method using supercrit. fluid extn. (SFE) and gas chromatog./ion trap mass spectrometry (GC/ITMS) was developed for anal. of 46 pesticides in fruits and vegetables. The SFE procedure used 2 com. instruments that trapped the exts. on solid-phase material. Silica gel chem. bound to octadecylsilane (ODS) collected the extd. pesticides efficiently, and elution of the trap with acetonitrile gave high recoveries. Exts. thus obtained were sufficiently clean for subsequent GC/ITMS anal. The SFE conditions were 320 atom and 60 DegC (0.85 g/mL CO2 d.) and 1.6 mL/min CO2 flow rate for 6 extn. vessel vols. Trapping on 1 mL ODS occurred at 10 DegC, and a 0.4 mL/min flow rate of acetonitrile at 40 Deg-50 DegC was used to elute the pesticides. Quant. and qual. analyses of the 46 pesticides were performed simultaneously by GC/ITMS. Studies of fortified samples gave >80% recoveries for 39 pesticides, and recoveries of >50% for the other pesticides, except methamidophos and omethoate. Grapes, carrots, potatoes, and broccoli were used as samples during method development, and a blind expt. involving incurred and fortified samples was used to test the approach. Results of the blind study compared satisfactorily with results from 7 labs. using traditional GC detectors and solvent-based extns. [on SciFinder (R)] 1060-3271 pesticide/ detn/ fruit/ vegetable/ CO2/ extn;/ fruit/ pesticide/ detn/ CO2/ extn/ GCMS;/ vegetable/ pesticide/ detn/ CO2/ extn/ GCMS;/ gas/ chromatog/ mass/ spectrometry/ pesticide;/ carbon/ dioxide/ supercrit/ pesticide/ extn/ food

758. Lehotay, Steven J., Lightfield, Alan R., Harman-Fetcho, Jennifer A., and Donoghue, Dan J (2001). Analysis of pesticide residues in eggs by direct sample introduction/gas chromatography/tandem mass spectrometry. *Journal of Agricultural and Food Chemistry* 49: 4589-4596.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2001:662545
Chemical Abstracts Number: CAN 135:343483

Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Egg; Food analysis; Pesticides; Tandem mass spectrometry (anal. of pesticide residues in eggs by direct sample introduction/gas chromatog./tandem mass spectrometry); Mass spectrometry (gas chromatog. combined with; anal. of pesticide residues in eggs by direct sample introduction/gas chromatog./tandem mass spectrometry); Gas chromatography (mass spectrometry combined with; anal. of pesticide residues in eggs by direct sample introduction/gas chromatog./tandem mass spectrometry)
CAS Registry Numbers: 50-29-3; 50-33-9 (Phenylbutazone); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-43-5 (p,p'-Methoxychlor); 72-55-9; 86-50-0 (Azinphos-methyl); 90-15-3 (1-Naphthol); 120-12-7 (Anthracene); 121-75-5 (Malathion); 218-01-9 (Chrysene); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 962-58-3 (Diazinon oxon); 1007-28-9 (2-Chloro-4-(ethylamino)-6-amino-1,3,5-triazine); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1912-24-9 (Atrazine); 2385-85-5 (Mirex); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6190-65-4; 13071-79-9 (Terbufos); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 25311-71-1 (Isofenphos); 30667-99-3 (o,p'-Methoxychlor); 31120-85-1 (Isofenphos oxon); 33213-65-9 (Endosulfan II); 35400-43-2 (Sulprofos); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 66230-04-4 (Esfenvalerate) Role: ANT (Analyte), ANST (Analytical study) (anal. of pesticide residues in eggs by direct sample introduction/gas chromatog./tandem mass spectrometry)
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Citations: 18) Fillion, J; J AOAC Int 2000, 83, 698
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Citations: 20) Varnegy, L; Acta Vet Hung 1999, 47, 117
Citations: 21) Szerletics Turi, M; Acta Vet Hung 2000, 48, 139 Direct sample introduction (DSI) or \"dirty sample injection\" is a rapid, rugged, and inexpensive approach to large vol. injection in gas chromatog. (GC) for semivolatile analytes such as pesticides. DSI of complex samples such as eggs requires a very selective detection technique, such as tandem mass spectrometry (MS-MS), to det. the analytes among the many semivolatile matrix components that also appear. In DSI, the nonvolatile matrix components that normally would contaminate the GC system in traditional injection methods remain in a disposable microvial, which is removed after every injection. For example, 3 mg of nonvolatile residue typically remained in the microvial after an injection of egg

ext. using the DSI method. This anal. procedure involves the following: (i) weighing 10 g of egg in a centrifuge tube and adding 2 g of NaCl and 19.3 mL of acetonitrile (MeCN); (ii) blending for 1 min using a probe blender; (iii) centrifuging for 10 min; and (iv) analyzing 10 mL (5 mg of egg equiv.) of the ext. using DSI/GC/MS-MS. No sample cleanup or solvent evapn. steps were required to achieve quant. and confirmatory results with <10 ng/g detection limits for 25 of 43 tested pesticides from several chem. classes. The remaining pesticides gave higher detection limits due to poor fragmentation characteristics in electron impact ionization and/or degrdn. Anal. of eggs incurred with chlorpyrifos-Me showed a similar trend in the results as a more traditional approach. [on SciFinder (R)] 0021-8561 food/ analysis/ egg/ pesticide/ GC/ MS

759. Lehotay, Steven J. and Valverde-Garcia, Antonio (1997). Evaluation of different solid-phase traps for automated collection and clean-up in the analysis of multiple pesticides in fruits and vegetables after supercritical fluid extraction. *Journal of Chromatography, A* 765: 69-84.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1997:210627
Chemical Abstracts Number: CAN 127:49412
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Bean; Food analysis; Fruit; Orange; Pesticides; Sweet potato; Vegetable (evaluation of different solid-phase traps for automated collection and clean-up in the anal. of multiple pesticides in fruits and vegetables after supercrit. fluid extn.); Extraction (supercrit.; evaluation of different solid-phase traps for automated collection and clean-up in the anal. of multiple pesticides in fruits and vegetables after supercrit. fluid extn.)
CAS Registry Numbers: 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-55-9; 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 90-43-7 (o-Phenylphenol); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 789-02-6; 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1861-32-1 (Dacthal); 1897-45-6; 1912-24-9 (Atrazine); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2497-06-5 (Disulfoton sulfone); 2921-88-2 (Chlorpyrifos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 22224-92-6 (Fenamiphos); 27813-21-4 (Tetrahydrophthalimide); 30560-19-1 (Acephate); 33213-65-9 (Endosulfan II); 36734-19-7 (Iprodione); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 66230-04-4 (Esfenvalerate); 68359-37-5 (Cyfluthrin); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), ANST (Analytical study) (evaluation of different solid-phase traps for automated collection and clean-up in the anal. of multiple pesticides in fruits and vegetables after supercrit. fluid extn.)
Citations: 1) Lehotay, S; J AOAC Int 1995, 78, 821
Citations: 2) Lehotay, S; J AOAC Int 1995, 78, 831
Citations: 3) Lehotay, S; J AOAC Int 1995, 78, 445
Citations: 4) Luke, M; Anal Meth Pest Plant Growth Reg 1986, 15, 161
Citations: 5) Andersson, A; Fresenius J Anal Chem 1991, 339, 365
Citations: 6) Lee, S; Fresenius J Anal Chem 1991, 339, 376
Citations: 7) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 8) Holland, P; Emerging Strategies for Pesticide Analysis, Ch 4 1992, 71
Citations: 9) Hopper, M; J Assoc Off Anal Chem 1991, 74, 661

Citations: 10) Valverde-Garcia, A; J AOAC Int 1995, 78, 867
Citations: 11) Valverde-Garcia, A; J Agric Food Chem 1996, 44, 1780
Citations: 12) Cairns, T; Rapid Comm Mass Spectrom 1993, 7, 971
Citations: 13) Porter, N; J Chromatogr Sci 1992, 30, 367
Citations: 14) Thompson, P; J High Resolut Chromatogr 1994, 17, 759
Citations: 15) Wenclawiak, B; Anal Chem 1995, 67, 4577
Citations: 16) Langenfeld, J; J Chromatogr 1992, 594, 297
Citations: 17) Vejrosta, J; J Chromatogr A 1994, 683, 407
Citations: 18) Yang, Y; J Chromatogr A 1995, 699, 265
Citations: 19) Husers, N; J Chromatogr A 1995, 697, 107
Citations: 20) Bowadt, S; J Chromatogr A 1994, 662, 424
Citations: 21) Mulcahey, L; Anal Chem 1992, 64, 2352
Citations: 22) Mulcahey, L; Anal Chem 1991, 63, 2225
Citations: 23) Ashraf-Khorassani, M; J Chromatogr Sci 1992, 30, 361
Citations: 24) Moore, W; Anal Chem 1995, 67, 2030
Citations: 25) Miller, D; Anal Chem 1993, 65, 1038
Citations: 26) Hopper, M; J AOAC Int 1995, 78, 1072
Citations: 27) France, J; J Agric Food Chem 1991, 39, 1871
Citations: 28) Murugaverl, B; J Chromatogr A 1993, 657, 223
Citations: 29) Maxwell, R; J High Resolut Chromatogr 1995, 18, 231
Citations: 30) Maxwell, R; J High Resolut Chromatogr 1992, 15, 807
Citations: 31) Thompson, C; J Chromatogr 1991, 543, 187
Citations: 32) Eckard, P; J High Resolut Chromatogr 1996, 19, 117
Citations: 33) Andersson, A; Pers comm
Citations: 34) Schachterle, S; J Chromatogr A 1996, 754, 368 This study was designed to det. which combination of sorbent-trap and elution solvent provided the most efficient automated method of collection in supercrit. fluid extn. (SFE), elution of analytes, and clean-up of orange, sweet potato and green bean exts. for anal. of 56 diverse pesticides using GC-ion-trap MS. The solid-phase traps evaluated consisted of octyldecylsilane (ODS), diol, Tenax and Porapak-Q, and the elution solvents compared were acetone, Et acetate, acetonitrile and methanol. SFE collection by bubbling into each org. solvent was also compared. Recoveries, elution vols., limits of detection and clean-up aspects were detd. for each combination of commodity, trap and solvent tested. High trapping efficiencies were achieved in each case, and acetone usually eluted the pesticides in the least vol. (<1 mL) from the traps. The few matrix components that interfered in GC-ion-trap MS continued to interfere in all trap/solvent pairs, and limits of detection were independent of trap/solvent combination. The use of the ODS trap and acetone elution solvent gave the most consistently high recoveries of the traps and solvents tested. [on SciFinder (R)] 0021-9673 pesticide/ extn/ detn/ fruit/ vegetable/ GCMS;/ gas/ chromatog/ mass/ spectrometry/ pesticide

760. Leibfried, R. T. (Chemical Interactions Between Forest Soils and Acidic Precipitation During a Dormant Season on Wildcat Run Watershed in Southwestern Pennsylvania. *Govt reports announcements & index (gra&i), issue 07, 1983*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: In order to assess the chemical interactions between forest soil and acidic precipitation, water samples were collected at the soil surface and beneath organic and mineral soil horizons on Wildcat Run Watershed in southwestern Pennsylvania during the 1980-81 dormant season. Leachate samples were collected from the three major soil series on the watershed using zero-tension pan lysimeters to determine chemical changes produced by the different soil horizons. Mean pH was 4.0, 3.9, and 4.4 for surface snowmelt and rain, organic soil leachate, and mineral soil leachate, respectively; indicating a significant retention of H(+) in -1 the mineral soil horizons. Mean aluminum concentration was 0.44, 1.03, and 3.59 mg.l at the same three collection depths. Collection depth was the most important factor affecting percolate chemistry while soil series, size-of-event, and precipitation-type were of lesser importance. Master's thesis,
KEYWORDS: Precipitation (Meteorology)

KEYWORDS: Soil water
KEYWORDS: Water pollution
KEYWORDS: Forest land
KEYWORDS: Acid precipitation

761. Lennon, S. F., Reighard, G. L., Horton, D., Schermerhorn, P., and Podhorniak, L (2006). Profiling presence and concentration of eighteen pesticide residues through a commercial canning process. *Acta Horticulturae* 713: 409-415.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:1199425
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Peach (canned; pesticide residues in com. canning process); Canned foods (peaches; pesticide residues in com. canning process); Canning; Food contamination; Food processing; Pesticides (pesticide residues in com. canning process)
CAS Registry Numbers: 79-57-2 (Oxytetracycline); 86-50-0 (Azinphos-methyl); 133-06-2 (Captan); 288-88-0 (1H-1,2,4-Triazole); 732-11-6 (Phosmet); 961-22-8 (Azinphos-methyl oxon); 1897-45-6; 2921-88-2 (Chlorpyrifos); 3735-33-9 (Phosmet oxon); 5598-15-2 (Chlorpyrifos oxon); 52645-53-1 (Permethrin); 60207-90-1 (Propiconazole); 66230-04-4 (Esfenvalerate); 114369-43-6 (Fenbuconazole) Role: POL (Pollutant), OCCU (Occurrence) (pesticide residues in com. canning process)
Citations: Podhorniak, L; J AOAC Int 2001, 84, 873 A two-year study was initiated in 2002 to profile the fate of eighteen pesticide residues through a com. peach canning process. Of the 18 pesticides, ten were parent compds. and the remaining eight compds. were metabolites that the United States Environmental Protection Agency (U.S. EPA) identified as potential environmental or human concerns. The pesticides examd. were azinphos-Me, azinphos-Me oxygen analog, phosmet, phosmet oxygen analog, chlorpyrifos, chlorpyrifos oxygen analog, propiconazole, fenbuconazole, RH-129, RH-130, triazole acetic acid (TAA), triazole alanine (TA), 1,2,4 triazole, captan, chlorothalonil, permethrin, esfenvalerate, and oxytetracycline (OTC). In 2002 and 2003, fruit samples of three late ripening peach cultivars ('Ouachita Gold', 'Encore', and 'Faye Elberta') were collected from three com. growers. Four different sample points were taken through the canning process: the whole peach, half of the peach with the peel, half of the peach without the peel, and the canned peach. There was a significant difference ($P = 0.05$) in residue concns. (ppb) of the parent compds. between the whole peach, the half peach with peel, and the half peach without the peel samples. However, there were no significant difference in residue concns. found between the half peach without the peel and the canned peach samples. The dissipation rate of metabolite residues varied from compd. to compd. The residues from organophosphate metabolites followed the same dissipation trend as the parent compds. However, the triazole metabolites TA and TAA dissipated much slower through the canning process, while 1,2,4 triazole was not detected in any of the samples. All samples analyzed in this study were below the U.S. EPA tolerances. [on SciFinder (R)] 0567-7572 pesticide/ peach/ canning

762. Lens, F., Dressler, S., Vinckier, S., Janssens, S., Dessein, S., VanEvelghem, L., and Smets, E. (2005). Palynological Variation in Balsaminoid Ericales. I. Marcgraviaceae. *Annals of Botany, 96 (6) pp. 1047-1060, 2005.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0305-7364
Descriptors: Balsaminoids
Descriptors: Ericales

Descriptors: Marcgraviaceae
Descriptors: Neotropics
Descriptors: Orbicules
Descriptors: Palynology
Descriptors: SEM
Descriptors: TEM
Abstract: (bullet) Background and Aims: Marcgraviaceae are a rather small family of seven genera and approx. 130 neotropical species. This study aims to present a detailed palynological survey of the family in order to comment on the intrafamily relationships and possible correlations with pollinators. (bullet) Methods: In total, 119 specimens representing 67 species and all genera are observed using light microscopy and scanning electron microscopy. Furthermore, eight species from five genera are studied with transmission electron microscopy. (bullet) Key Results: Our results show that pollen grains of Marcgraviaceae are small (20-35 (mu)m), have three equatorial apertures, granules on the colpus membrane, oblate spheroidal to prolate spheroidal shapes, mainly psilate to perforate ornamentations, and lalongate colpus-shaped thinnings at the inner layer of the exine, and show the presence of orbicules. Based on our fragmentary knowledge of the pollination biology of the family, there are no clear correlations between pollinators and pollen features. (bullet) Conclusions: The genus Marcgravia has a high percentage of reticulate sexine patterns and a relatively thin nexine. Sarcopera can be defined by the presence of an oblate spheroidal to even suboblate shape, while Ruyschia and Souroubea typically show prolate spheroidal to subprolate pollen grains. The presence of a thick foot layer in the pollen wall is characteristic of the genera Norantea, Sarcopera and Schwartzia. Pollen features that are taxonomically useful within the family are the shape, sexine sculpturing, and ultrastructure of the pollen wall.
52 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Subfile: Plant Science

763. Leonard, K. R., Kleinschmidt, A. K., Agabian-Keshishian, Nina, Shapiro, Lucille, and Maizel, J. V. (1972). Structural studies on the capsid of Caulobacter crescentus bacteriophage [phi]CbK. *Journal of Molecular Biology* 71: 201-204.
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

Electron microscopy, combined with optical diffraction, has been used to investigate the topological structure of the head or capsid of Caulobacter crescentus bacteriophage [phi]CbK. Analysis of optical diffraction patterns from micrographs of negatively stained and metal-shadowed phage heads has enabled a model to be constructed for the non-isometric capsid. The model consists of a prolate cylindrical surface lattice with 5-fold rotational symmetry closed at each end by a pentagonal pyramidal cap. Optical filtering and image reconstruction gave additional information on the distribution of protein in the surface of the [phi]CbK capsid. The protein composition of the phage has been determined by gel electro-phoresis, the results indicating that three major proteins make up the capsid. The relation between the numerical distribution of these proteins and the proposed model for the capsid is discussed.
http://www.sciencedirect.com/science/article/B6WK7-4DNGV2N-16/2/e7c284bfd8225de42bce3952f0f7bdce

764. Leong, K. H. (1984). Thermophoresis and diffusiophoresis of large aerosol particles of different shapes. *Journal of Aerosol Science* 15: 511-517.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The thermophoresis and diffusiophoresis of nonspherical aerosol particles is examined. The representative particle shapes studied are cylinders and oblate and prolate spheroids. Phoretic velocities are derived for these particles of different shapes for the case of large particles in the slip regime of flow. Results indicate that diffusiophoresis is independent of particle shape in contrast to thermophoresis which varies substantially with particles of different shapes. The thermophoresis of nonspherical particles also depends on its orientation with the thermal gradient.
http://www.sciencedirect.com/science/article/B6V6B-48BC8N3-7N/2/6f6f87d2c4b6e2135460a89a8a332764

765. Leshchev, V. V. and Talanov, G. A. (Determination of Organophosphorus Compounds in Feed and Food Products. *Veterinariya 9: 82-83; 1976.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. A method for the detection of organophosphorus pesticide residues in plants, feed, and in food products of vegetable and animal origin is described. After extraction with acetone (2x), chloroform, ethanol and chloroform, the latter extract is evaporated, the dry residue is taken up in acetone, and applied on dry indicator paper that had been treated with bromthymol blue in sodium hydroxide and with acetylcholine chloride solution. The indicator paper is dried, after which it is sprayed with 50% horse serum, and exposed to 40DEG C for 15 minutes. Organophosphorus compounds will appear in the form of dark blue rings or spots against a yellow background. The limits of detectability are 0.01 mg/kg for fenthion, valexon, dichlorvos, diazinon, amidophos, ronnel, trichlorometaphos-3, phosalone and crotoxyphos; 0.02 mg/kg for fenitrothion, and 0.05 mg/kg for chlorpyritos, malathion, methylparathion, trichlorfon, and phosmet.
LANGUAGE: rus

766. Leshchev, V. V. and Talanov, G. A. (Selection of Reagents and Solvents for Tlc Determination of Organophosphorus Insecticides. *Khim. Sel. Khoz.12(6): 47-50; 1974.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. Various visualizing reagents and solvents for the thin-layer chromatographic determination of organophosphorus insecticides were studied. Acetone, chloroform, hexane, benzene, and methanol were used as solvents. Detection with bromphenol blue and silver nitrate on silica gel, sodium hydroxide and silver nitrate solution, and the enzymatic method using horse serum, sodium hydroxide, bromthymol blue, and acetylcholine chloride produced rather low sensitivity for most of the pesticides tested. High sensitivity was achieved by another method using liquid petrolatum in diethyl ether on a cellulose layer for subsequent UV irradiation. The best results were obtained by separation on ready-made silufol layers and visualization with a 0. 7% solution of 2,6-dibromo-N-chloro-p-quinone imine in hexane or chloroform and subsequent simultaneous irradiation with UV and IR light. The sensitivity of this method amounted to 0. 05-0. 1 mug for most thiophosphoric and dithiophosphoric acid derivatives, but this method was not suitable for the determination of dichlorvos, naled, crufomate, crotoxyphos, and trichlorfon. A 15:5:1 ratio of hexane-acetone-chloroform is recommended as solvent system for such pesticides as trichlorfon, dimethoate, crufomate, dichlorvos, naled, crotoxyphos and phosmet. Hexane and acetone in a 4:1 ratio or a 15:5:0. 5 ratio of hexane-acetone-chlorform is recommended for fenitrothion, fenthion, diazinon, and chlorpyrifos.
LANGUAGE: rus

767. Leupin, Olivier, Zaru, Rossana, Laroche, Thierry, Muller, Sabina, and Valitutti, Salvatore (2000). Exclusion of CD45 from the T-cell receptor signaling area in antigen-stimulated T lymphocytes. *Current Biology* 10: 277-280.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

T lymphocytes are activated by the engagement of their antigen receptors (TCRs) with complexes of peptide and major histocompatibility complex (MHC) molecules displayed on the cell surface of antigen-presenting cells (APCs) []. An unresolved question of antigen recognition by T cells is how TCR triggering actually occurs at the cell-cell contact area. We visualized T-cell-APC contact sites using confocal microscopy and three-dimensional reconstruction of z-sections. We show the rapid formation of a specialized signaling domain at the T-cell-APC contact site that is characterized by a broad and sustained area of tyrosine phosphorylation. The T-lymphocyte cell-surface molecule CD2 is rapidly recruited into this signaling domain, whereas TCRs progressively percolate from the entire T-cell surface into the phosphorylation area. Remarkably, the highly expressed phosphatase CD45 is excluded from the signaling domain. Our results indicate that physiological TCR triggering at the T-cell-APC contact site is the result of a localized alteration in the balance between cellular kinases and phosphatases. We therefore provide experimental evidence to support current models of T-cell activation based on CD45 exclusion from the TCR signaling area [, and]. http://www.sciencedirect.com/science/article/B6VRT-404HD1B-R/2/fe266785ec6b2317e889bb459f96793b

768. Lewerenz, H. J., Plass, R., and Bleyl, D. W. ([Synergism of Selected Pesticides. 1. Acute Oral Toxicity in Combined Administration]. *Nahrung. 1980; 24(4-5):463-9. [Die nahrung]: Nahrung.*
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: NON-ENGLISH.

ABSTRACT: Comparative studies with male rats were performed to investigate the coergism of single oral doses of selected pesticides, the comparison being based on the lethal effects observed. The quantitative analysis of the dose-mortality relationship and the determination of the coergistic index evidenced a slight increase of the lethal effect with lindane-phosmet and lindane-carbaryl combinations. The combined administration of lindane and ethylenethiourea resulted in an additive lethal effect.
MESH HEADINGS: Animals
MESH HEADINGS: Carbaryl/administration &amp
MESH HEADINGS: dosage/toxicity
MESH HEADINGS: Ethylenethiourea
MESH HEADINGS: Lethal Dose 50
MESH HEADINGS: Lindane/administration &amp
MESH HEADINGS: dosage/toxicity
MESH HEADINGS: Male
MESH HEADINGS: Pesticide Synergists/administration &amp
MESH HEADINGS: dosage/*toxicity
MESH HEADINGS: Pesticides/administration &amp
MESH HEADINGS: dosage/*toxicity
MESH HEADINGS: Phosmet/administration &amp
MESH HEADINGS: dosage/toxicity
MESH HEADINGS: Rats
LANGUAGE: ger
TRANSLIT/VERNAC TITLE: Untersuchungen zum Koergismus ausgewählter Pestizide 1. Mitt. Akute orale Toxizität bei kombinierter applikation.

769. Lewis, Edwin A. and Reams, R. Renee (1983). Histone H1: Ultracentrifugation studies of the effects of ionic strength and denaturants on the solution conformation. *Archives of Biochemistry and Biophysics* 223: 185-192.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

The conformation of histone H1 has been examined under native and denaturing conditions in the absence of DNA or chromatin. Sedimentation coefficients were determined for Histone H1 in 0.1 KCl and in 6 guanidine hydrochloride solutions at pH 7.4. The influence of ionic strength on the conformation of histone H1 has been determined by measurement of the sedimentation coefficient in tetramethylammonium chloride solutions of up to 2.5 and extrapolated to infinite ionic strength. Results from these experiments suggest that the native conformation of histone H1 is very asymmetric in shape. The molecule is best described as a prolate ellipsoid with axes of 312 A (2a) and 16 A (2b) in low ionic strength media and also as a prolate ellipsoid with axes of 202 A (2a)

and 20 A (2b) at high ionic strength or when associated with polyanions, e.g., DNA. Denaturation of histone H1 by guanidine hydrochloride was found to be completely reversible. In 6 guanidine hydrochloride, the H1 molecule collapses to a sphere but the original extended conformation of the protein is readily restored on dialysis. This suggests rigid conformational requirements for the H1 molecule as incorporated into chromatin. The shape and dimensions for the H1 molecule at high ionic strength are not sufficiently conclusive to locate H1 in the chromatin structure. It is proposed, however, that viable models for chromatin architecture must be consistent with the histone H1 solution dimensions obtained here.
http://www.sciencedirect.com/science/article/B6WB5-4DN48B4-1RF/2/b9c478dd9d1a09eaeb0077ec863ee579

770. Li, Gwo-Chen, Wong, Sue-San, and Tsai, Mei-Chen (2002). Safety evaluation and regulatory control of pesticide residues in Taiwan. *Yaowu Shipin Fenxi* 10: 269-277.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:188976
Chemical Abstracts Number: CAN 139:5880
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food contamination; Fruit; Human; Pesticides; Risk assessment; Vegetable (safety evaluation and regulatory control of pesticide residues in Taiwan)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 90-15-3 (1-Naphthol); 99-30-9 (Dicloran); 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 141-66-2 (Dicrotophos); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 299-84-3 (Fenchlorphos); 300-76-5 (Naled); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 584-79-2 (Allethrin); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-86-8 (Demeton-s-methyl); 944-21-8 (Dyfoxon); 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1646-87-3 (Aldicarb-sulfoxide); 1646-88-4 (Aldicarb-sulfone); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2439-01-2 (Chinomethionat); 2540-82-1 (Formothion); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2655-14-3 (XMC); 2921-88-2 (Chlorpyriphos); 3766-81-2 (Fenobucarb); 4658-28-0 (Aziprotryne); 4824-78-6 (Bromophos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7292-16-2 (Propaphos); 7696-12-0 (Tetramethrin); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10311-84-9 (Dialiphos); 10605-21-7 (Carbendazim); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 15972-60-8 (Alachlor); 16655-82-6 (3-Hydroxycarbofuran); 16709-30-1 (3-Ketocarbofuran); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19666-30-9 (Oxadiazon); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22781-23-3 (Bendiocarb); 23184-66-9 (Butachlor); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 27355-22-2 (Fthalide); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 31972-44-8 (Fenamiphos-sulfone); 32809-16-8 (Procymidone); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 36519-00-3 (Phosdiphen); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39300-45-3 (Dinocap); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenophos); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 51218-45-2 (Metolachlor); 51630-58-1

(Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55219-65-3 (Triadimenol); 57511-62-3 (Propaphos-sulfoxide); 57511-63-4 (Propaphos-sulfone); 57837-19-1 (Metalaxyl); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60238-56-4 (Chlorthiophos); 63284-71-9 (Nuarimol); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 66841-25-6 (Tralomethrin); 67375-30-8; 68049-83-2 (Azafenidin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Beta-cyfluthrin); 69327-76-0 (Buprofezin); 69377-81-7 (Fluroxypyr); 69409-94-5 (Fluvalinate); 69806-40-2 (Haloxyfop-methyl); 70124-77-5 (Flucythrinate); 76738-62-0; 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 85509-19-9 (Flusilazole); 86479-06-3 (Hexaflumuron); 86598-92-7 (Imibenconazole); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 89784-60-1 (Pyraclofos); 94361-06-5 (Cyproconazole); 95465-99-9 (Cadusafos); 96489-71-3 (Pyridaben); 98886-44-3 (Fosthiazate); 101463-69-8 (Flufenoxuron); 104030-54-8 (Carpropamid); 107534-96-3 (Tebuconazole); 112281-77-3 (Tetraconazole); 114369-43-6 (Fenbuconazole); 116255-48-2 (Bromuconazole); 119446-68-3 (Difenoconazole); 133855-98-8 (Epoxiconazole); 143390-89-0 (Kresoxim-methyl); 146887-37-8 (RH9130); 146887-38-9 (RH9129); 172838-11-8 (Tokuoxon)
Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (safety evaluation and regulatory control of pesticide residues in Taiwan)
Citations: 1) Anonymous; Bull Dept Health, Exec Yuan 2000, 89004810
Citations: 2) Anonymous; Bull Dept Health, Exec Yuan 1995, 84061193
Citations: 3) Li, G; Extension Bulletin, Food & Fertilizer Technology Center 1999, 469
Citations: 4) Li, G; Plant Protection Bulletin, 37, 227
Citations: 5) Li, G; Sci Agric Taiwan 1981, 29, 211
Citations: 6) Pan, W; Nutritional Science Journal, 24, 11
Citations: 7) Residue Control Department; Residue Report 1999
Citations: 8) Tsai, M; Progress Report of year 1999 1999
Citations: 9) Tsai, M; Progress Report of year 2000 1999
Citations: 10) Wong, S; Guide to pesticides tolerances on crops in Taiwan 1997
Citations: 11) Wong, S; The list of acceptable daily intakes for pesticides used in Taiwan 2000
Citations: 12) Wong, S; Conference paper,IUPAC International workshop on pesticides - Harmonization of pesticide Management 2000
Citations: 13) Wu, L; Master thesis, Chinese Medical College 1992 Because agricultural prodn. in Taiwan depends heavily on the use of pesticides, much attention has been focused on pesticide contamination of food and on the effects of pesticide residues on human health. The Taiwan Agricultural Chems. and Toxic Substances Research Institute (TACTRI) conducts tests to evaluate the safe usage of pesticides in Taiwan. In accordance with the Pesticide Control Act, min. harvest intervals and tolerance levels for pesticides used on different crop groups are established before pesticides are approved for use in the field. The \"tolerance\" level of pesticides for different crop groups is detd. on the basis of: (i) the acceptable daily intake value of the pesticide; (ii) the av. daily consumption of each crop group by the Taiwanese people; and (iii) the level of pesticide residues on different crops, estd. from supervised trials. Tolerance levels must be established before registrations can be approved. Pesticide residues on vegetables and fruits are under heavy public scrutiny. Fifteen workstations for pesticide residue control have been set up by the TACTRI in different localities in Taiwan, and multi-residue methods are used for the anal. of these products. Pesticide residues commonly found on vegetables have now been identified. Educational programs for farmers have been devised, based on the anal. results obtained from these workstations. Risk assessments of dietary intakes of pesticides are carried out on a continuing basis. Results have shown that the dietary intake of pesticide residues by consumers is within safe limits. [on SciFinder (R)] 1021-9498 food/ risk/ contamination/ pesticide/ vegetable

771. Li, Hong-Ping, Li, Gwo-Chen, and Jen, Jen-Fon (2004). Fast multi-residue screening for 84 pesticides in tea by gas chromatography with dual-tower auto-sampler, dual-column and dual detectors. *Journal of the Chinese Chemical Society (Taipei, Taiwan)* 51: 531-542.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS

Accession Number: AN 2004:527369
Chemical Abstracts Number: CAN 141:139242
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Sampling apparatus (automated; multi-residue screening of pesticides in tea by GC with dual-tower auto-sampler, dual-column and dual detectors after solid phase extn.); Gas chromatographic columns (capillary; multi-residue screening of pesticides in tea by GC with dual-tower auto-sampler, dual-column and dual detectors after solid phase extn.); Electron capture detectors; Flame photometry; Food analysis; Food contamination; Gas chromatography; Pesticides; Tea products (multi-residue screening of pesticides in tea by GC with dual-tower auto-sampler, dual-column and dual detectors after solid phase extn.)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 62-73-7 (Dichlofos); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-86-8 (Demeton-S-methyl); 944-21-8 (Dyfoxon); 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1113-02-6 (Omethoate); 1582-09-8 (Trifluralin); 1897-45-6 (Chlorothalonil); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2439-01-2 (Chinomethionat); 2597-03-7 (Phenthoate); 2921-88-2 (Chlorpyriphos); 3811-49-2 (Salithion); 4824-78-6 (Bromophos-ethyl); 6923-22-4 (Monocrotophos); 7292-16-2 (Propaphos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18854-01-8 (Isoxathion); 24017-47-8 (Triazophos); 26087-47-8 (Iprobenfos); 27355-22-2 (Fthalide); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 34643-46-4 (Prothiofos); 36519-00-3 (Phosdiphen); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 41083-11-8 (Azocyclotin); 41198-08-7 (Profenofos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 51218-49-6 (Pretilachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 60207-90-1 (Propiconazole); 66230-04-4 (Esfenvalerate); 67375-30-8; 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68694-11-1 (Triflumizole); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 89784-60-1 (Pyraclofos); 96489-71-3 (Pyridaben); 119446-68-3 (Difenoconazole); 172838-11-8 (Tokuoxon) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multi-residue screening of pesticides in tea by GC with dual-tower auto-sampler, dual-column and dual detectors after solid phase extn.); 98368-82-2 (DB 5); 137261-82-6 (CP-SIL 13CB); 725699-02-5 (DB 608) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (multi-residue screening of pesticides in tea by GC with dual-tower auto-sampler, dual-column and dual detectors after solid phase extn.)

Citations: 1) Wong, S; Guide to Pesticide Tolerances on Crops in Taiwan 1997
Citations: 2) Wang, W; J Chin Chem Soc 1994, 41, 109
Citations: 3) Niessner, G; J Chromatogr A 1999, 846, 341
Citations: 4) Niessner, G; J Chromatogr A 1996, 737, 215
Citations: 5) Boenke, A; Trends Anal Chem 1999, 18, 440
Citations: 6) van der Hoff, G; J Chromatogr A 1999, 843, 301
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Citations: 8) Szymczyk, K; Chromatographia 1998, 48, 156
Citations: 9) Chuang, J; Anal Chim Acta 1999, 399, 135
Citations: 10) Torres, C; J Chromatogr A 1996, 754, 301
Citations: 11) Tekel, J; J Chromatogr A 1996, 754, 397
Citations: 12) Colume, A; J Chromatogr A 2000, 882, 193
Citations: 13) Jimenez, J; J Chromatogr A 1997, 778, 289

Citations: 14) Wolska, L; Chemosphere 1999, 39, 1477
Citations: 15) Hassoon, S; Anal Chim Acta 2000, 405, 9
Citations: 16) Mol, H; J Chromatogr A 1995, 703, 277
Citations: 17) Fernandez-Alba, A; J Chromatogr A 1998, 823, 35
Citations: 18) Kadenczki, L; J Assoc Off Anal Chem Internal 1992, 75, 53
Citations: 19) Prinsloo, S; J Assoc Off Anal Chem 1985, 68, 1100
Citations: 20) Nakamura, Y; J Agric Food Chem 1994, 42, 2508
Citations: 21) Fillion, J; J Assoc Off Anal Chem Internal 1995, 78, 1252
Citations: 22) Dejonckheere, W; J Assoc Off Anal Chem Internal 1996, 79, 97
Citations: 23) Ho, W; J Chin Chem Soc 2000, 47, 469
Citations: 24) Le Calvez, N; J Chin Chem Soc 2002, 49, 585 A fast multi-residue screening method for detg. pesticides in tea is described. Pesticides are extd. from tea with acetone and methylene chloride, then enriched and cleaned up with solid phase extn. (SPE) prior to gas chromatog. detn. The fast screening is achieved by a gas chromatograph system equipped with dual-column, dual-tower auto-sampler and both electron capture detector (ECD) and flame photometric detector (FPD). Optimal conditions are investigated for the prospective pesticides including column selection, detection mode, the retention behaviors, quant. calibration, as well as the recoveries and repeatability of pesticides from tea samples. Under the optimal conditions, with the FPD-P detector accompanied CP-SIL 13CB column, 48 pesticides can be sepd. well and detected within 38 min; and with a DB-5 column, 35 ECD-detectable pesticides can be sepd. and detected within 46 min. The recoveries of 84 pesticides in tea samples are 65-120% with 0.34-16% RSD for spiking 0.02-3.0 mg/kg std. species. Because of the thermal instability of most pesticides, direct cold extn. of pesticides from a tea sample is recommended. The proposed method provided a very fast and efficient procedure to screen 84 pesticides from a complicated tea sample matrix. [on SciFinder (R)] 0009-4536 pesticide/ food/ analysis/ tea/ GC/ electron/ capture/ flame/ photometry

772. Li, Qin, Shivachandra, Sathish B., Zhang, Zhihong, and Rao, Venigalla B. (2007). Assembly of the Small Outer Capsid Protein, Soc, on Bacteriophage T4: A Novel System for High Density Display of Multiple Large Anthrax Toxins and Foreign Proteins on Phage Capsid. *Journal of Molecular Biology* 370: 1006-1019.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Bacteriophage T4 capsid is a prolate icosahedron composed of the major capsid protein gp23*, the vertex protein gp24*, and the portal protein gp20. Assembled on its surface are 810 molecules of the non-essential small outer capsid protein, Soc (10 kDa), and 155 molecules of the highly antigenic outer capsid protein, Hoc (39 kDa). In this study Soc, a "triplex" protein that stabilizes T4 capsid, is targeted for molecular engineering of T4 particle surface. Using a defined in vitro assembly system, anthrax toxins, protective antigen, lethal factor and their domains, fused to Soc were efficiently displayed on the capsid. Both the N and C termini of the 80 amino acid Soc polypeptide can be simultaneously used to display antigens. Proteins as large as 93 kDa can be stably anchored on the capsid through Soc-capsid interactions. Using both Soc and Hoc, up to 1662 anthrax toxin molecules are assembled on the phage T4 capsid under controlled conditions. We infer from the binding data that a relatively high affinity capsid binding site is located in the middle of the rod-shaped Soc, with the N and C termini facing the 2- and 3-fold symmetry axes of the capsid, respectively. Soc subunits interact at these interfaces, gluing the adjacent capsid protein hexamers and generating a cage-like outer scaffold. Antigen fusion does interfere with the inter-subunit interactions, but these interactions are not essential for capsid binding and antigen display. These features make the T4-Soc platform the most robust phage display system reported to date. The study offers insights into the architectural design of bacteriophage T4 virion, one of the most stable viruses known, and how its capsid surface can be engineered for novel applications in basic molecular biology and biotechnology. bacteriophage T4/ Soc/ Hoc/ virus assembly/ phage display http://www.sciencedirect.com/science/article/B6WK7-4NPG0J0-7/2/17636dbbe0fe97b10513dd3bee05ad49

773. Li, S. Q., Ni, Z. Y., Song, X. O., Lu, Y. Q., Liu, X. R., and Zhao, L. (1993). Structure-Activity Relationship

Analysis of Mutagenicity of Organophosphorus Pesticides and Their Molecular Mechanism. *Zhongguo yaolixue yu dulixue zazhi* 7: 93-99.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Whole structure patternization multivariant discriminant analysis (WSPMDA) was established for studying the structure-activity relationship of mutagenicity of organophosphorus pesticides (OPPs), of which the 3 constituents were patternized in subtype patterns, and then 36 categories of structural patterns of OPPs were constructed. Predicted mutagenicity probability, P(M+), was calculated for all the categories of the structural patterns of OPPs in 6 mutagenicity tests, and the relationship between the 3 constituents and mutagenicity of OPPs was analyzed. It was found that all the 3 constituents did affect the mutagenicity of OPPs in almost all the 6 tests. The proper application of P(M+) for development of safer new OPPs was discussed. Furthermore, according to the results of WSPMDA and the principles of different tests, it is proposed that there exist 3 different ways for the molecular mechanism of mutagenicity of OPPs.
MESH HEADINGS: GENETICS
MESH HEADINGS: CYTOGENETICS
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Genetics and Cytogenetics-General
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
LANGUAGE: chi

774. Liao, Wenta , Joe, Ton, and Cusick, William G (1991). Multiresidue screening method for fresh fruits and vegetables with gas chromatographic/mass spectrometric detection. *Journal - Association of Official Analytical Chemists* 74: 554-65.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1991:512955
Chemical Abstracts Number: CAN 115:112955
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectroscopy (capillary gas chromatog. and, of pesticides); Pesticides (detn. of, in foods by GC/MS); Apple; Bean; Broccoli; Carrot; Cauliflower; Coriander; Cucumber; Food analysis; Grape; Lettuce; Onion; Tomato (pesticide detn. in, by GC/MS); Chromatography (capillary, mass spectrometry and, of pesticides); Capsicum annuum annuum (grossum group, pesticide detn. in, by GC/MS)

CAS Registry Numbers: 50-29-3 (p,p'-DDT); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7; 63-25-2; 72-20-8 (Endrin); 72-43-5; 72-54-8 (p,p'-DDD); 72-55-9 (p,p'-DDE); 72-56-0 (Ethylan); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8 (DEF); 79-05-0 (Propanamide); 80-33-1 (Ovex); 80-38-6 (Fenson); 82-68-8 (Pentachloronitrobenzene); 86-50-0 (Guthion); 90-43-7 ([1,1'-Biphenyl]-2-ol); 95-06-7 (Vegadex); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 121-75-5; 122-34-9 (Simazine); 122-42-9 (Propham); 126-75-0; 133-06-2 (Captan); 133-07-3 (Folpet); 141-66-2 (Dicrotophos); 298-00-0 (Methyl parathion); 298-01-1; 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4; 309-00-2 (Aldrin); 311-45-5; 314-40-9 (Bromacil); 315-18-4 (Mexacarbate); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 333-41-5 (Diazinon); 338-45-4; 510-15-6 (Chlorobenzilate); 532-34-3 (Indalone); 563-12-2 (Ethion); 731-27-1; 732-11-6 (Phosmet); 786-19-6; 834-12-8 (Ametryne); 841-06-5 (Methoprotryne); 950-37-8; 959-98-8; 1014-70-6 (Simetryne); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1194-65-6; 1563-66-2 (Carbofuran); 1582-09-8; 1634-78-2; 1746-81-2 (Monolinuron); 1836-75-5 (Nitrofen); 1836-77-7 (Chlornitrofen); 1861-32-1 (Dacthal); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2032-65-7 (Methiocarb); 2104-96-3 (Bromophos); 2164-08-1 (Lenacil); 2275-18-5 (Prothoate); 2310-17-0 (Phosalone); 2312-35-8; 2385-85-5 (Mirex); 2439-01-2 (Quinomethionate); 2540-82-1 (Formothion); 2600-69-3 (Phorate-oxygen analog); 2631-37-0 (Promecarb); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 3766-81-2; 5902-51-2 (Terbacil); 6164-98-3 (Chlordimeform); 7287-19-6 (Prometryne); 8065-36-9 (Bufencarb); 8065-48-3 (Systox); 11096-82-5 (PCB 1260); 11141-16-5 (Aroclor 1232); 12789-03-6 (Chlordane); 13593-03-8 (Quinalphos); 15972-60-8; 16118-49-3 (Carbetamide); 17109-49-8; 19666-30-9; 22212-55-1 (Benzoylprop-ethyl); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 22936-75-0 (Dimethametryn); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 23947-60-6; 23950-58-5 (Pronamide); 24017-47-8 (Triazophos); 24151-93-7 (Piperophos); 26087-47-8 (Iprobenfos); 26399-36-0 (Profluralin); 28249-77-6 (Benthiocarb); 29232-93-7 (Pirimiphos-methyl); 33213-65-9; 33245-39-5 (Fluchloralin); 35400-43-2 (Bolstar); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Bayleton); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 52756-22-6 (Flamprop-isopropyl); 52756-25-9 (Flamprop-methyl); 55283-68-6 (Sonalan); 57837-19-1; 58810-48-3 (Ofurace); 61213-25-0; 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 63284-71-9 (Nuarimol); 70585-36-3; 70585-38-5; 75736-33-3 (Dichlobutrazol); 76578-14-8 (Quizalofop-ethyl); 77491-30-6 (Safrotin); 88671-89-0 (Rally); 111566-22-4 (Isozophos); 120523-08-2; 135757-91-4 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in foods by GC/MS) A gas chromatog./mass spectrometric (GC/MS) screening method has been developed for the detn. of pesticide residues in a variety of crop samples. Samples are extd. with acetonitrile and partitioned with NaCl satd. aq. soln. Targeted pesticide analytes are sepd. on a short, narrow bore capillary column, identified by electron ionization MS scanned from 100 to 400 amu, and quantitated by the monitoring of base ions and internal stds. The accuracy of the quant. detn. measured in terms of av. percentage recovery of 143 compds. in 13 crop samples was 92% with a relative std. deviation of 22%. [on SciFinder (R)] 0004-5756 pesticide/ detn/ fruit/ vegetable;/ gas/ chromatog/ pesticide;/ mass/ spectrometry/ pesticide

775. Liapis, K. S., Miliadis, G. E., and Tsiropoulos, N. G (2000). Confirmation of pesticides in water samples by mass spectrometry. *Bulletin of Environmental Contamination and Toxicology* 65: 811-817.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2001:8953
Chemical Abstracts Number: CAN 134:76003
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal

Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; pesticide detn. in water samples by); Gas chromatography (mass spectrometry combined with; pesticide detn. in water samples by); Chemical ionization mass spectrometry (neg.-ion; pesticide detn. in water samples by mass spectrometry); Pesticides (pesticide detn. in water samples by mass spectrometry); Extraction (solid-phase; pesticide detn. in water samples by mass spectrometry after)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (pesticide detn. in water samples by mass spectrometry); 50-29-3 (DDT); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-20-8 (Endrin); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 84-74-2 (Dibutyl phthalate); 86-50-0 (Azinphos methyl); 99-30-9 (Dichloran); 101-21-3 (Chlorpropham); 115-32-2 (Dicofol); 115-86-6 (Triphenyl phosphate); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 133-07-3 (Folpet); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 301-12-2 (Oxydemeton-methyl); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 330-55-2 (Linuron); 333-41-5 (Diazinon); 485-31-4 (Binapacryl); 563-12-2 (Ethion); 709-98-8 (Propanil); 732-11-6 (Phosmet); 759-94-4 (EPTC); 919-86-8 (Demeton-S-methyl); 959-98-8 (a-Endosulfan); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanide); 1113-02-6 (Omethoate); 1134-23-2 (Cycloate); 1582-09-8 (Trifluralin); 1634-78-2 (Malaoxon); 1746-81-2 (Monolinuron); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2008-41-5 (Butylate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2425-06-1 (Captafol); 2540-82-1 (Formothion); 2588-03-6 (Phorate sulfoxide); 2595-54-2 (Mecarbam); 2600-69-3 (Phorate oxon); 2921-88-2 (Phosphorothioic acid, O,O-diethyl O-(3,5,6-trichloro-2-pyridinyl) ester); 3761-41-9 (Fenthion sulfoxide); 5598-13-0; 5915-41-3 (Terbuthylazine); 6552-12-1 (Fenoxon); 6552-13-2 (Fenoxon sulfoxide); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 13457-18-6 (Pyrazophos); 15972-60-8 (Alachlor); 17040-19-6 (Demeton-S-methyl sulfone); 21087-64-9 (Metribuzin); 23950-58-5 (Propyzamide); 24934-91-6 (Chlormephos); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 40487-42-1 (Pendimethalin); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 57837-19-1 (Metalaxyl); 70585-35-2 (Triadimenol A); 70585-37-4 (Triadimenol B); 71626-11-4 (Benalaxyl); 88671-89-0 (Myclobutanil); 91465-08-6 (l-Cyhalothrin); 95465-99-9 (Cadusafos) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticide detn. in water samples by mass spectrometry); 141-78-6 (Ethyl acetate) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (pesticide detn. in water samples by mass spectrometry after extn. using)
Citations: Bagheri, H; Chromatographia 1992, 34, 5
Citations: Barcelo, D; Trace determination of pesticides and their degradation products in water 1997
Citations: Benfenati, E; Chemosphere 1990, 21, 1411
Citations: Cairnes, T; Mass Spectrometry Rev 1989, 8, 93
Citations: EC Council Directive; Off J Eur Commun 778 EEC 1980, L 229/11-29
Citations: Mattina, M; Trends Anal Chem 1993, 12, 328
Citations: Miliadis, G; Bull Environ Contam Toxicol 1997, 59, 917
Citations: Miliadis, G; Bull Environ Contam Toxicol 1998, 61, 255
Citations: Vreuls, J; Analysis of pesticides in ground and surface water 1995, II, 1 GC-MS with electron impact (EI) and neg. chem. ionization (NCI) was applied to analyze 96 pesticides in water samples. The pesticides were extd. from 500 mL water samples by SPE with a C-18 sorbent and eluted with Et acetate for the GC-MS anal. Retention times, mol. masses and the main ions obtained with both EI and NCI techniques for the investigated pesticides are given. A validation of the extn. method showed recoveries of >80% for most analytes and the detection limits were 1-10 mg/L for the full scan and 0.01-0.1 mg/L for the SIM mode. [on SciFinder (R)] 0007-4861
pesticide/ detn/ water/ SPE/ GC/ MS;/ gas/ chromatog/ mass/ spectrometry/ pesticide/ water

776. Light, Douglas M. and Henrick, Clive A (20010426). Novel bisexual attractants, aggregants and arrestants

containing host-plant volatiles for adults and larvae of codling moth and other species of Lepidoptera. 94 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Database: CAPLUS
Accession Number: AN 2001:300423
Chemical Abstracts Number: CAN 134:291534
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Insecticides (baits; formulations for controlling codling moth and other Lepidoptera contg. host volatile-based attractants, insecticides, and pheromones); Insect attractants (bisexual attractants for codling moth and other Lepidoptera contg. host-plant volatiles); Codling moth (formulations contg. host volatile-based attractants, insecticides, and pheromones for controlling); Fruit tree (formulations contg. host volatile-based attractants, insecticides, and pheromones for controlling codling moth and other Lepidoptera on); Integrated pest control; Pesticide formulations (formulations for controlling codling moth and other Lepidoptera contg. host volatile-based attractants, insecticides, and pheromones); Pheromones Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (formulations for controlling codling moth and other Lepidoptera contg. host volatile-based attractants, insecticides, and pheromones); Bacillus thuringiensis (insecticide in formulations against codling moth and other Lepidoptera contg. host volatile-based attractants); Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (insecticide in formulations against codling moth and other Lepidoptera contg. host volatile-based attractants)
CAS Registry Numbers: 3025-31-8 (Ethyl (2Z,4E)-2,4-decadienoate); 3025-32-9 (Propyl (2E,4E)-2,4-decadienoate); 3031-24-1 (Butyl (2E,4E)-2,4-decadienoate); 3031-26-3 (Pentyl (2E,4E)-2,4-decadienoate); 3031-27-4 (Pentyl (2E,4Z)-2,4-decadienoate); 3031-28-5 (Hexyl (2E,4E)-2,4-decadienoate); 4493-42-9 (Methyl (2E,4Z)-2,4-decadienoate); 7328-33-8 (Methyl (2E,4E)-2,4-decadienoate); 7328-34-9 (Ethyl (2E,4E)-2,4-decadienoate); 24738-46-3 (Methyl (2E,4E)-2,4-dodecadienoate); 28316-62-3 (Propyl (2E,4Z)-2,4-decadienoate); 28369-24-6 (Butyl (2E,4Z)-2,4-decadienoate); 28380-11-2 (Hexyl (2E,4Z)-2,4-decadienoate); 39924-19-1 (Ethyl (2E,4Z)-2,4-dodecadienoate); 39924-20-4 (Ethyl (2E,4E)-2,4-dodecadienoate); 39924-47-5 (Methyl (2E,4Z)-2,4-dodecadienoate); 70930-43-7 (Isopropyl (2E,4Z)-2,4-decadienoate); 123474-79-3 (Ethyl (2Z,4Z)-2,4-decadienoate); 334812-87-2 (Isopropyl (2E,4E)-2,4-decadienoate); 334812-92-9 (Propyl (2E,4Z)-2,4-dodecadienoate); 334812-93-0 (Propyl (2E,4E)-2,4-dodecadienoate); 334812-94-1 (Butyl (2E,4Z)-2,4-dodecadienoate); 334812-95-2 (Butyl (2E,4E)-2,4-dodecadienoate); 334812-96-3 (Pentyl (2E,4Z)-2,4-dodecadienoate); 334812-97-4 (Pentyl (2E,4E)-2,4-dodecadienoate); 334812-98-5 (Hexyl (2E,4Z)-2,4-dodecadienoate); 334812-99-6 (Hexyl (2E,4E)-2,4-dodecadienoate); 334813-00-2 (Isopropyl (2E,4Z)-2,4-dodecadienoate); 334813-01-3 (Isopropyl (2E,4E)-2,4-dodecadienoate); 334813-12-6 Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (bisexual attractants for codling moth and other Lepidoptera contg. host-plant volatiles); 3025-30-7P Role: AGR (Agricultural use), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (bisexual attractants for codling moth and other Lepidoptera contg. host-plant volatiles); 334813-13-7P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (bisexual attractants for codling moth and other Lepidoptera contg. host-plant volatiles); 544-48-9P Role: AGR (Agricultural use), PUR (Purification or recovery), BIOL (Biological study), PREP (Preparation), USES (Uses) (formulations for controlling codling moth and other Lepidoptera contg. host volatile-based attractants and); 52-68-6 (>,Trichlorfon); 55-38-9 (Fenthion); 56-38-2; 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 78-34-2 (Dioxathion); 86-50-0 (Azinphos M); 97-17-6 (Dichlofenthion); 114-26-1 (Propoxur); 116-06-3 (Aldicarb); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 126-75-0 (Demeton S); 141-66-2 (Dicrotophos); 297-97-2 (Thionazin); 298-00-0; 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton M); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Diethion); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 780-11-0 (Terbam); 786-19-6

(Carbophenothion); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1563-66-2 (Carbofuran); 2032-65-7 (Methiocarb); 2274-67-1 (Dimethylvinphos); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2425-10-7 (Xylylcarb); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos A); 2674-91-1 (Oxydeprofos); 2921-88-2 (Chlorpyrifos); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 3761-41-9 (Mesulfenfos); 3766-81-2 (Fenobucarb); 3811-49-2 (Salithion); 4824-78-6; 5598-13-0; 6923-22-4 (>,Monocrotophos); 7292-16-2 (Propaphos); 7786-34-7 (Mevinphos); 8022-00-2 (Demeton M); 8065-36-9 (Bufencarb); 10265-92-6 (Methamidophos); 10453-56-2 (cis-Resmethrin); 10453-86-8 (Resmethrin); 11141-17-6 (Azadirachtin); 12407-86-2 (Trimethacarb); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13356-08-6 (Fenbutatin oxide); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 15263-53-3 (Cartap); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 17606-31-4 (Bensultap); 18854-01-8 (Isoxathion); 20425-39-2 (Pyresmethrin); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphos A); 23526-02-5 (Thuringiensin); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 26087-47-8 (Iprobenfos); 28434-01-7 (Bioresmethrin); 29232-93-7; 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 33089-61-1 (>,Amitraz); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 37273-91-9 (Metaldehyde); 38260-54-7 (Etrimfos); 39196-18-4 (Thiofanox); 39515-41-8 (Fenpropathrin); 41083-11-8 (Azocyclotin); 41198-08-7 (Profenofos); 42509-80-8 (Isazophos); 51596-10-2 (Milbemectin); 51630-58-1 (Fenvalerate); 52315-07-8 (>,Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 54593-83-8 (Chlorethoxyfos); 55285-14-8 (Carbosulfan); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63935-38-6 (Cycloprothrin); 64628-44-0 (Triflumuron); 65691-00-1 (Triarathene); 65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 66841-26-7 (Tralocythrin); 67375-30-8 (Alphamethrin); 68085-85-8 (Clocythrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Betacyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 70288-86-7 (Ivermectin); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 74115-24-5 (Clofentezine); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 79622-59-6 (Fluazinam); 79637-88-0 (Chloethocarb); 80060-09-9 (Diafenthiuron); 80844-07-1 (Ethofenprox); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 86479-06-3 (Hexaflumuron); 89784-60-1 (Pyraclofos); 91465-08-6; 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Tebupirimphos); 96489-71-3 (Pyridaben); 98886-44-3 (Fosthiazate); 101007-06-1 (Acrinathrin); 101463-69-8 (Flufenoxuron); 103055-07-8 (Lufenuron); 105024-66-6 (Silafluofen); 105779-78-0 (Pyrimidifen); 107713-58-6 (Flufenprox); 111872-58-3 (Fubfenprox); 112143-82-5 (Triazuron); 112410-23-8 (Tebufenozide); 113036-88-7 (Flucycloxuron); 113507-06-5 (Moxidectin); 118712-89-3 (Transfluthrin); 119168-77-3 (Fenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 138261-41-3 (Imidacloprid); 150824-47-8 (Nitenpyram); 255725-89-4 (Dicliphos) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (insecticide in formulations against codling moth and other Lepidoptera contg. host volatile-based attractants); 112-30-1 (Decanol); 112-53-8 (Dodecanol); 112-54-9 (Dodecanal); 112-66-3 (Dodecanyl acetate); 124-25-4 (Tetradecanal); 629-70-9; 629-80-1 (Hexadecanal); 638-59-5; 765-17-3 ((E,Z)-10,12-Hexadecadienol); 765-19-5 ((E,E)-10,12-Hexadecadienol); 822-23-1; 4273-95-4 ((Z)-11-Octadecenal); 14959-86-5 ((Z)-7-Dodecenyl acetate); 16695-40-2; 16695-41-3 ((E)-7-Dodecenyl acetate); 16725-53-4; 16974-11-1 ((Z)-9-Dodecenyl acetate); 20056-92-2; 20711-10-8 ((Z)-11-Tetradecenyl acetate); 23192-42-9 ((Z)-7-Hexadecenyl acetate); 23192-82-7 ((E)-9-Tetradecenyl acetate); 28079-04-1 ((Z)-8-Dodecenyl acetate); 28540-79-6 ((E)-7-Tetradecenyl acetate); 30689-78-2 ((Z)-14-Methyl-8-hexadecen-1-ol); 31502-19-9 ((E)-6-Nonenol); 33189-72-9 ((E)-11-Tetradecenyl acetate); 33951-95-0; 33956-49-9; 33956-50-2; 33956-51-3; 34010-15-6 ((Z)-11-Tetradecenol); 34010-21-4 ((Z)-11-Hexadecenyl acetate); 35148-18-6; 35148-19-7 ((E)-9-Dodecenyl acetate); 35153-09-4 ((E)-10-Dodecenyl acetate); 35153-10-7 (-11-Dodecenyl acetate);

35153-15-2; 35153-16-3 ((Z)-10-Tetradecenyl acetate); 35153-17-4 ((E)-10-Tetradecenyl acetate); 35153-18-5; 35237-62-8; 35237-64-0 ((Z)-11-Tetradecenal); 35289-31-7 (11-Dodecen-1-ol); 35746-21-5 ((E)-11-Tetradecenal); 35835-80-4 ((Z)-8-Tetradecenyl acetate); 35854-86-5; 37616-04-9; 38363-29-0 ((E)-8-Dodecenyl acetate); 39616-21-2; 40642-40-8; 42513-42-8; 42521-46-0 ((Z,E)-9,12-Tetradecadienol); 50767-78-7 ((E)-9,11-Dodecadienyl acetate); 51354-22-4; 51607-94-4 ((E,Z)-7,11-Hexadecadienyl acetate); 51652-47-2; 51760-35-1 ((Z)-9,11-Dodecadienyl acetate); 52207-99-5; 52957-16-1 ((E)-9-Tetradecenol); 53042-79-8 ((Z,E)-7,11-Hexadecadienyl acetate); 53042-81-2 ((E,E)-7,11-Hexadecadienyl acetate); 53120-26-6; 53880-51-6; 53939-27-8 ((Z)-9-Tetradecenal); 53939-28-9 ((Z)-11-Hexadecenal); 53963-06-7 ((Z,Z)-7,11-Hexadecadienol); 53963-09-0 ((Z,E)-7,11-Hexadecadienol); 54364-62-4; 54364-63-5; 54664-98-1; 54910-51-9; 55110-79-7; 55774-32-8; 56195-36-9 ((E)-11-Tridecenyl acetate); 56218-64-5 ((E)-8-Tetradecenyl acetate); 56218-72-5 ((E)-11-Hexadecenyl acetate); 56219-03-5; 56219-04-6 ((Z)-9-Hexadecenal); 56683-54-6 ((Z)-11-Hexadecenol); 56941-92-5 ((E)-14-Methyl-8-hexadecen-1-ol); 57393-02-9; 57491-33-5 ((E)-11-Hexadecenal); 57491-34-6; 57491-35-7; 57981-60-9; 58594-45-9 ((Z)-13-Octadecenal); 60609-52-1 ((E)-14-Methyl-8-hexadecenal); 60609-53-2 ((Z)-14-Methyl-8-hexadecenal); 61618-05-1; 62936-14-5; 63024-98-6; 64470-32-2; 65128-96-3 ((Z)-7-Tetradecenal); 65726-40-1 ((Z,E)-9,11-Tetradecadienol); 66471-35-0; 66644-98-2 ((Z)-8-Hexadecenal); 67446-07-5 ((Z)-5-Decenyl acetate); 67818-23-9; 68279-24-3 ((Z)-10-Hexadecenal); 69820-24-2 ((E)-13-Octadecenal); 69977-23-7 ((Z,E)-10,12-Hexadecadienal); 69977-24-8 ((E,E)-10,12-Hexadecadienal); 70711-45-4 ((Z)-12-Pentadecenyl acetate); 71317-73-2 ((Z,Z)-11,13-Hexadecadienal); 71545-96-5 ((Z)-13-Hexadecenal); 71873-66-0 (Octadecenal); 72698-30-7 ((E)-10-Hexadecenal); 72698-31-8 ((Z)-12-Hexadecenal); 73304-17-3 ((E)-12-Pentadecenyl acetate); 73416-71-4; 73416-72-5; 75589-43-4 ((Z,E)-9,11-Tetradecadienal); 77822-06-1 ((Z,Z)-9,12-Tetradecadienol); 80625-77-0; 84643-63-0 ((Z,E)-9,11-Hexadecadienal); 87092-33-9 ((Z,E)-9,12-Tetradecadienal); 96348-46-8 ((Z,Z)-10,12-Hexadecadienal); 96883-53-3 ((Z,Z)-7,11-Hexadecadienal); 96883-54-4 ((Z,E)-7,11-Hexadecadienal); 100496-43-3 ((Z,Z)-10,12-Tetradecadienol); 111876-38-1 ((E,E)-8,10-Tetradecadienal); 111876-44-9 ((E)-11,13-Tetradecadienal) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (pheromone in formulations against codling moth and other Lepidoptera contg. host volatile-based attractants)
PCT Designated States: Designated States W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 99-425321
Priority Application Date: 19991021
Citations: Kawabata; Foods Food Ingredients J Jpn, CAPLUS 1994:679351 1994, 160, 93
Citations: Pretorius; Dtsch Lebensm-Rundsch, CAPLUS 1987:596730 1987, 93(6), 180
Citations: Takeoka; J Agric Food Chem 1992, 40(10), 1925
Citations: Jennings; Wiss-Tech Komm, CAPLUS 1967:45583 1965, 6, 277
Citations: Neal, J; US 4474755 A 1984
Citations: Aries; US 3891759 A 1975
Citations: Turker; Apidologie, CAPLUS 1994:59500 1993, 24(4), 425
Citations: Rhainds; J Chem Ecology, CAPLUS 1995:109094 1994, 20(12), 3083 This invention concerns novel bisexual attractants for codling moth and other species of Lepidoptera. In particular, the invention concerns attractants isolated from pear or apple volatiles which have superior and selective attractancy for adult codling moths and other lepidopterous species. These attractants also attract, aggregate and/or arrest larvae of these species. The invention further concerns a method for monitoring, control, mass trapping and mating disruption of codling moth and other lepidopterous species. The method includes luring the pest to a formulation contg. the attractant, aggregant or arrestant of the invention, alone, or in combination with a sex pheromone

and/or another kairomone and/or insecticide. The attractant of the invention has the general formula CH3CH2CH2(CH2)n[C(H)=C(H)]mC(H)=C(H)C(=O)X (n = 0-8; m = 0 or 1; X = OR1, NR1R2, SR1 or R1; R1, R2 = H, C1-C6 alkyl), and is purified to at least 90% purity or a geometrical or positional isomer or deriv. thereof. [on SciFinder (R)] A01N025-00. A01N031-00; A01N035-00; A01N037-00; A01N043-00; A01M001-20. insect/ attractant/ insecticide/ bait/ pheromone/ Cydia;/ host/ volatile/ attractant/ codling/ moth

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Chem Codes: Chemical of Concern: PSM Rejection Code: METHODS.

ISSN: 1320-5331
Descriptors: Article Subject Terms: Catchment Areas
Descriptors: Catchment area
Descriptors: Cattle
Descriptors: Climatology
Descriptors: Dry season
Descriptors: Farming
Descriptors: Groundwater
Descriptors: Impoundments
Descriptors: Irrigation water
Descriptors: Lake reclamation
Descriptors: Lakes
Descriptors: Livestock
Descriptors: Monsoons
Descriptors: Percolation
Descriptors: Rainy season
Descriptors: Removal
Descriptors: Residence time
Descriptors: Runoff
Descriptors: Silt
Descriptors: Soil Conservation
Descriptors: Tanks
Descriptors: Water Management
Descriptors: Water management
Descriptors: Water reservoirs
Descriptors: Water supply
Descriptors: Water use
Descriptors: Article Geographic Terms: India, Maharashtra
Descriptors: India, West
Abstract: Sustainable management of percolation lakes or percolation tanks is closely related to the survival of approximately 15 million farmers and an equal number of cattle living in the semiarid basaltic plateau of western India. Here, the monsoonal rains are restricted to a few rainy days between June and September. It is therefore necessary to harvest the monsoon runoff into small percolation lakes in mini-catchments by constructing earthen bunds on small streams and allowing the stored water in the lakes to percolate and recharge the groundwater body. The residence time of water in the mini-catchments is thus increased and it is possible for the farmers to dig wells and irrigate the crops in their small farm plots. The efficiency of the percolation lakes is hampered by silt that accumulates in the lake bed or tank bed, year after year. It is therefore necessary for the benefitting farmers to desilt the lakebed when the lake dries in the summer. Soil conservation practices should be followed in the catchment area in order to reduce the amount of silt entering the lake. Non-governmental organizations play an important role in this field.
Publisher: Blackwell Science Ltd
Language: English
English

Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: SW 0850 Lakes
Classification: Q2 02127 General papers on resources
Classification: Q5 01523 Conservation, wildlife management and recreation
Classification: EE 10 General Environmental Engineering
Classification: SW 4020 Evaluation process
Subfile: ASFA 2: Ocean Technology Policy & Non-Living Resources; Environmental Engineering Abstracts; Sustainability Science Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

778. Lindblom, Jenny and Nordell, Bo (2007). Underground condensation of humid air for drinking water production and subsurface irrigation: EuroMed 2006 - Conference on Desalination Strategies in South Mediterranean Countries. *Desalination* 203: 417-434.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, MODELING.

Condensation Irrigation (CI) is a combined system for solar desalination and irrigation and/or drinking water production. Solar stills are used for humidifying ambient air flowing over the saline water surface in the still. This warm, humid air is then led into an underground pipe system where it is cooled and vapour precipitates as freshwater on the pipe walls. If drainage pipes are used the condensed water and some of humid air percolate through the pipe perforations and irrigates and aerates the ground. Drinking water can be collected at the pipe endings when using non-perforated pipes. The CI system has attracted attention from several North African countries, and pilot plants are now in operation in Tunisia and Algeria. Mass and heat transfer in the soil around the buried pipes has been modelled to evaluate the theoretical potential for these types of systems and to gain understanding of the mechanisms governing their productivity. For a presumed reference system, the mean water production rate in the drinking water system was 1.8 kg per meter of pipe and day. When using drainage pipes for subsurface irrigation, this number increased to 3.1 kg/m/d, corresponding to 2.3 mm/d of supplied irrigation water. Desalination/ Irrigation/ Water production/ Heat and mass transfer/ Modelling
http://www.sciencedirect.com/science/article/B6TFX-4MWRDDH-1K/2/b8c9546fee0d522fbe6d95c97ce02c5c

779. Lindblom, Jenny and Nordell, Bo (2006). Water production by underground condensation of humid air: Selected paper from the 10th Aachen Membrane Colloquium. *Desalination* 189: 248-260.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Condensation irrigation (CI) is a combined system for desalination and irrigation. By evaporating seawater in, for example, solar stills and letting the humidified air transport the formed vapour into an underground pipe system, fresh water will precipitate as the air is cooled by the ground. By using drainage pipes for underground air transportation, perforations in the pipes enable the water to percolate into the soil. This study of CI focuses on the transport of humid air inside buried plain pipes, where the condensed water stays inside the pipe and may thus be collected at the pipe endings and used for drinking. Numerical simulations of this system result in a mean water production capacity of 1.8 kg/m and day over a 50-m long pipe in a diurnally steady system, though shorter pipes result in a higher mean production. A performed theoretical analysis also indicates that CI is a promising alternative irrigation method as it enables the use of saline water for irrigation. Desalination/ Condensation/ Irrigation/ Drinking water/ Humid air
http://www.sciencedirect.com/science/article/B6TFX-4J9X4KP-13/2/3c6b2ab1bce0fb5069a06a729ac421bb

780. Lisovik Z, A. and Gorbacheva, N. A. (Gas-Chromatographic Determination of Metaphos, Nitrophos and Methylethylthiophos in Blood. *Farmatsiya (moscow) 26(5): 44-51 1977 (5 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH, CHEM METHODS.

ABSTRACT: PESTAB. A gas-chromatographic method for the quantitative determination of metaphos methyl parathion, methylnitrophos (fenitrothion) and methylethylthiophos (methylethyl paration) in human blood and peritoneal fluid obtained during peritoneal dialysis is described. Following extraction with hexane, centrifugation at 3,000 rpm and decantation, dissolution in hexane and concentration in a rotary evaporator at 20C and 0.80 kp/cm2 pressure, determination is done by means of a gas chromatograph with a SE-30-packed column and a thermionic detector. The sensitivity is 0.002 mg%; the recovery rate is 94.6-98.7% for metaphos, 94-96.1% for menthylnitrophos, and 96-98.8% for methylethylnitrophos in peritoneal fluid, and 80.4-89.3%, 81.6-88.4%, and 85.1-89.1%, respectively, in blood. The recovery rate decreases with the time elapsed after blood sampling. Therefore, the analysis should be performed as soon as possible. Substances present in commercial preparations of these pesticides (xylene, dichloroethane, vaseline and mineral oils, white spirit, emulsifiers); other organophosphorus pesticides, such as malathion, ronnel, trichlorfon dichlorvos, DEF, formothion, tetrachlorvinphos, diazinon, naled, coumaphos, demeton, menazon, phosalone, phosmet, cidial, and ciodrin, as well as the therapeutic drugs administered to patients poisoned with metaphos, methylnitrophos and methylethylthiophos are all free from interfering with the gas-chromatographic determination.
LANGUAGE: rus

781. Liu, C. H., Cheng, C. L., Shih, S. J., Yen, G. C., and Chou, S. S. (1996). Studies on Multiresidue Determination of Pesticides in Fruits and Vegetables by Gas Chromatography/Mass Spectrometry. *Journal of food and drug analysis* 4: 89-98.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A multiresidue method using gas chromatography/mass spectrometry (GC) was evaluated for the determination of several pesticides in fruits and vegetables. The pesticides were extracted using a slightly modified Luke multiresidue procedure, separated by capillary column gas chromatography and detected by mass chromatography with quadrupole mass spectrometer in the electron impact mode. Recovery studies of chlorpyrifos, diazinon, endosulfan, fenarimol, fenvalerate, folpet, iprodione, malathion, methamidophos, phosmet and procymidone were performed at the 0.5 ppm spike level in cherry tomatoes, chin-chian pe-tsai, Chinese cabbages, kidney beans and oranges. Recoveries were between 64.6 and 124.6%, with the exception of methamidophos which produced interference due to the constituents of the samples. Coefficients of variation ranged between 0.3 and 17.6%, with an average of 5.3%. The estimated limits of detection of the pesticides (except methamidophos) in the crops were at
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Food Technology-General
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-Foods

KEYWORDS: Pest Control
LANGUAGE: chi

782. Liu, Pengyan and Ma, Yusong (2005). Determination of 36 pesticide residues in corn using gas chromatography mass spectrometry. *Chemical Journal on Internet* 7: No pp. given.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:633628
Chemical Abstracts Number: CAN 144:5562
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal; Online Computer File
Language: written in English.
Index Terms: Food analysis (Detn. of 36 pesticide residues in corn using gas chromatog. mass spectrometry); Pesticides (detn. of 36 pesticide residues in corn using gas chromatog. mass spectrometry); Mass spectrometry (gas chromatog. combined with; detn. of 36 pesticide residues in corn using gas chromatog. mass spectrometry); Gas chromatography (mass spectrometry combined with; detn. of 36 pesticide residues in corn using gas chromatog. mass spectrometry)
CAS Registry Numbers: 53-19-0 (Op'-DDD); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7; 63-25-2 (Carbaryl); 72-54-8 (Pp'-DDD); 82-68-8 (Pentachloronitrobenzene); 115-29-7 (Endosulfan); 122-14-5 (Fenitrothion); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 311-45-5 (Paraoxon); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 1563-66-2 (Carbofuran); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2631-40-5 (Isoprocarb); 3424-82-6 (Op'-DDE); 13593-03-8 (Quinalphos); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 39515-41-8 (Fenpropathrin); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (detn. of 36 pesticide residues in corn using gas chromatog. mass spectrometry)
Citations: 1) Frank, J; Journal of Environmental Science and Health B 2000, 35(1), 1
Citations: 2) Tomoko, I; Journal of Food Hygienic Society of Japan 2003, 44(6), 310
Citations: 3) Liu, A; Jour Nat Scie Hunan Norm Uni(Hunan Shifan Daxue Ziran kexue Xuebao) 2001, 24(1), 52
Citations: 4) Long, S; Practical Preventive Medicine (Shiyong Yufang Yixue) 2001, 18(5), 341
Citations: 5) Duan, T; Guizhou Agricultural Sciences(Guizhou Nongye Kexue) 2002, 30(3), 61
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Citations: 7) Lin, W; Journal of the Chinese Cereals and Oils Association(Zhongguo Liangyou Xuebao) 2003, 18(2), 79
Citations: 8) Dai, H; Journal of Instrumental Analysis(Fenxi Ceshi Xuebao) 2002, 21(1), 70
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Citations: 11) Liu, C; Acta Scientiae Circumstantiae(Huanjing Kexue Xuebao) 2003, 23(4), 499
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Citations: 13) Jimenez, J; Journal of Chromatography A 2001, 919, 147
Citations: 14) Bernal, J; Journal of Chromatography A 2000, 882, 239
Citations: 15) Burke, E; Chemosphere 2003, 50, 529
Citations: 16) Lin, W; The Compilation of Residue Limits Standards for Pesticides and Veterinary Drugs in Foodstuffs in the World(Geguo Shipin Zhong Nongyao Shouyao Canliu Xianliang Guiding) 2002, 3 A new anal. method has been developed to det. organophosphorus, organochlorine, carbamate and pyrethroid, multicomponent pesticide residues in corn. It is based on a fast extn. of pesticides with dichloromethane and a further clean-up procedure by solid-phase extn. using a Florisil cartridge, then analyzed by gas chromatog.-mass spectrometry (GC-MS). The pesticides were identified by retention time and the proportion of qual. ions, and quantified being base on ext. of spiking stds. in blank sample. The detn. results of accuracy, precision and

the limits of detection (LOD) was shown that the method was validated. [on SciFinder (R)] 1523-1623 food/ analysis/ pesticide/ GCMS

783. Liu, T. S. and Tzeng, A. K. (1993). Occurrence and Control of Floral Bulb Mites. *Plant protection bulletin (taichung)* 35: 177-190.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A two-year survey shows that bulb mites are important soil pests on floral bulbs in Taichung area. Among the three mites observed, Rhizogiyphus robini was the most prevalent and constituted > 95% of the bulb mites found. This survey also shows that gladiolus and lily were the most vulnerable and the damage could reach > 90% when no measure was taken. With proper control, an average of 12.6% or 6.8% of the bulbs was still affected. The chlorosis of these plants often resulted from the simultaneous occurrence of bulb mites and bacterial diseases, further suggesting the seriousness of these pests. Continuous culture enhanced the occurrence of and damage inflicted by bulb mites. Our Station first proposed soaking the bulbs in chemical solutions for 1/2 and 1 hr in order to control these bulb mites. Checking the results 1, 4 and 7 days after the treatment revealed that among the twenty chemicals tested, two of the currently recommended, i.e., 25% Bromopropylate E. C. (4
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BILE PIGMENTS
MESH HEADINGS: PORPHYRINS
MESH HEADINGS: TEMPERATURE
MESH HEADINGS: BILE PIGMENTS/METABOLISM
MESH HEADINGS: PORPHYRINS/METABOLISM
MESH HEADINGS: METABOLIC DISEASES
MESH HEADINGS: BACTERIA/PHYSIOLOGY
MESH HEADINGS: BACTERIA/METABOLISM
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: WATER/METABOLISM
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: TEMPERATURE
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: BACTERIA
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: ENVIRONMENTAL POLLUTION
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: WEATHER
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PREVENTIVE MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL

MESH HEADINGS: ARTHROPODS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: BACTERIA
MESH HEADINGS: PLANTS
MESH HEADINGS: ARTHROPODS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Porphyrins and Bile Pigments
KEYWORDS: External Effects-Temperature as a Primary Variable (1971-)
KEYWORDS: Metabolism-Porphyrins and Bile Pigments
KEYWORDS: Metabolism-Metabolic Disorders
KEYWORDS: Physiology and Biochemistry of Bacteria
KEYWORDS: Plant Physiology
KEYWORDS: Plant Physiology
KEYWORDS: Horticulture-General
KEYWORDS: Phytopathology-Diseases Caused by Bacteria
KEYWORDS: Phytopathology-Nonparasitic Diseases
KEYWORDS: Phytopathology-Disease Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Bacteria-General Unspecified (1992-)
KEYWORDS: Angiospermae
KEYWORDS: Acarina
LANGUAGE: chi

784. Liu, Yu-Huan, Liu, Yang, Chen, Zhi-Shi, Lian, Jie, Huang, Xiao, and Chung, Ying-Cheng (2004). Purification and characterization of a novel organophosphorus pesticide hydrolase from Penicillium lilacinum BP303. *Enzyme and Microbial Technology* 34: 297-303.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:111467
Chemical Abstracts Number: CAN 140:387656
Section Code: 7-2
Section Title: Enzymes
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Paecilomyces lilacinus (BP303; purifn. and characterization of novel organophosphate hydrolase from Penicillium lilacinum BP303 and degrdn. of organophosphorus pesticides); Enzyme kinetics; Michaelis constant (of organophosphate hydrolase from Penicillium lilacinum BP303 with organophosphorus pesticides); Pesticides (organophosphorus; purifn. and characterization of novel organophosphate hydrolase from Penicillium lilacinum BP303 and degrdn. of organophosphorus pesticides)
CAS Registry Numbers: 56-38-2 (Parathion); 56-72-4 (Coumaphos); 121-75-5 (Malathion); 126-75-0 (Demeton-S); 298-00-0 (Methyl parathion); 311-45-5 (Paraoxon); 732-11-6 (Phosmet) Role: BSU (Biological study, unclassified), BIOL (Biological study) (purifn. and characterization of novel organophosphate hydrolase from Penicillium lilacinum BP303 and degrdn. of organophosphorus pesticides); 117698-12-1P (Organophosphorus hydrolase) Role: BSU (Biological study, unclassified), PRP (Properties), PUR (Purification or recovery), BIOL (Biological study), PREP (Preparation) (purifn. and characterization of novel organophosphate hydrolase from Penicillium lilacinum BP303 and degrdn. of organophosphorus pesticides)
Citations: 1) Gallo, M; The handbook of pesticide toxicology 1990, 920

Citations: 2) Munnecke, D; Appl Environ Microbiol 1976, 32, 7
Citations: 3) Cheng, T; Appl Environ Microbiol 1993, 59, 3138
Citations: 4) Liu, B; Chemosphere 2001, 44, 1315
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Citations: 21) Akkernans, A; FEMS Microbiol Rev 1994, 15, 185
Citations: 22) Hill, K; FEMS Microbiol Ecol 1998, 25, 319
Citations: 23) van, E; Biol Fertil Soils 1990, 10, 127
Citations: 24) Lai, K; Arch Biochem Biophys 1995, 318, 59
Citations: 25) Laemmli, U; Nature 1970, 227, 680
Citations: 26) Lowry, O; J Biol Chem 1951, 193, 265
Citations: 27) Mulbry, W; Appl Environ Microbiol 1989, 55, 289
Citations: 28) Irene, H; Appl Environ Microbiol 2002, 68, 3371
Citations: 29) Joseph, J; J Bacteriol 1991, 173, 1938
Citations: 30) Donarski, W; Biochemistry 1989, 28, 4650
Citations: 31) Mulbry, W; Gene 1992, 121, 149 P. lilacinum BP303 was found to be able to degrade various organophosphorus pesticides by effectively cleaving the P-O linkage in phosphotriesters and the P-S linkage in phosphothiolesters. The novel fungal organophosphate hydrolase (I) was purified to homogeneity and characterized, and found to hydrolyze methyl parathion, parathion, paraoxon, coumaphos, demeton-S, phosmet, and malathion. I was monomeric with a mol. wt. of 60 kDa, a pI of 4.8, and enzyme activity was optimal at 45 Deg and pH 7.5. I was strongly inhibited by Hg^{2+}, Fe^{3+}, p-chloromercuribenzoate, iodoacetate, and N-ethylmaleimide, whereas Cu^{2+}, b-mercaptoethanol, dithiothreitol, dithioerythritol, glutathione, and detergents slightly activated the enzyme. As judged by catalytic efficiencies, paraoxon was the preferred substrate. Thus, this appears to be the 1st broad-spectrum I purified to homogeneity from fungi, which effectively degrades organophosphorus pesticides contg. both P-O and P-S linkages. [on SciFinder (R)] 0141-0229 organophosphate/ hydrolase/ Penicillium/ organophosphorus/ pesticide/ hydrolysis

785. Loewenherz, C., Fenske, R. A., Simcox, N. J., Bellamy, G., and Kalman, D. (Biological Monitoring of Organophosphorus Pesticide Exposure Among Children of Agricultural Workers in Central Washington State. *Environ health perspect. 1997, dec; 105(12):1344-53. [Environmental health perspectives]: Environ Health Perspect*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: HUMAN HEALTH.

ABSTRACT: Children up to 6 years of age who lived with pesticide applicators were monitored for increased risk of pesticide exposure: 48 pesticide applicator and 14 reference families were recruited from an agricultural region of Washington State in June 1995. A total of 160 spot urine samples were collected from 88 children, including repeated measures 3-7 days apart. Samples were assayed by gas chromatography flame photometric detector for dimethylphosphate metabolites. Dimethylthiophosphate (DMTP) was the dominant metabolite. DMTP levels were significantly higher in applicator children than in reference children ($p = 0.015$), with median

concentrations of 0.021 and 0.005 microg/ml, respectively; maximum concentrations were 0.44 and 0.10 microg/ml, respectively. Percentages of detectable samples were 47% for applicator children and 27% for reference children. A marginally significant trend of increasing concentration was observed with decreasing age among applicator children (p = 0.060), and younger children within these families had significantly higher concentrations when compared to their older siblings (p = 0.040). Applicator children living less than 200 feet from an orchard were associated with higher frequency of detectable DMTP levels than nonproximal applicator children (p =0.036). These results indicate that applicator children experienced higher organophosphorus pesticide exposures than did reference children in the same community and that proximity to spraying is an important contributor to such exposures. Trends related to age suggest that child activity is an important variable for exposure. It is unlikely that any of the observed exposures posed a hazard of acute intoxication. This study points to the need for a more detailed understanding of pesticide exposure pathways for children of agricultural workers.
MESH HEADINGS: Agriculture
MESH HEADINGS: Child, Preschool
MESH HEADINGS: *Environmental Monitoring
MESH HEADINGS: Female
MESH HEADINGS: Humans
MESH HEADINGS: Insecticides/*urine
MESH HEADINGS: Male
MESH HEADINGS: Phosmet/urine
MESH HEADINGS: Thiophosphoric Acid Esters/*urine
MESH HEADINGS: Washington
LANGUAGE: eng

786. Loewy, Miriam, Kirs, Veronica, Carvajal, Gabriela, Venturino, Andres, and Pechen de D'Angelo, Ana M (1999). Groundwater contamination by azinphos methyl in the Northern Patagonic Region (Argentina). *Science of the Total Environment* 225: 211-218.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:101432
Chemical Abstracts Number: CAN 130:200616
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5, 19
Document Type: Journal
Language: written in English.
Index Terms: Groundwater pollution; Pesticides (groundwater contamination by azinphos Me in Northern Patagonic Region, Argentina)
CAS Registry Numbers: 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 86-50-0 (Azinphos methyl); 114-26-1 (Propoxur); 732-11-6 (Fosmet); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 10605-21-7 (Carbendazim); 17804-35-2 (Benomyl); 61949-76-6 (Cispermethrin) Role: POL (Pollutant), OCCU (Occurrence) (groundwater contamination by azinphos Me in Northern Patagonic Region, Argentina)
Citations: Caballero de Castro, A; IAEA Series 1997, 479
Citations: DiToro, D; Environ Toxicol Chem 1991, 9, 1071
Citations: Goerlitz, D; J AOAC 1974, 57, 176
Citations: Loch, J; J Proc IAWPCR Conf 1989, 1, 39
Citations: Luke, M; J AOAC 1975, 58, 1020
Citations: Moye, H; Rev Environ Contam Toxicol 1988, 105, 99
Citations: Pionke, H; Water Res 1989, 23, 1031
Citations: Racke, K; J Agric Food Chem 1996, 44, 1582
Citations: Redondo, M; Arch Environ Contam Toxicol 1997, 32, 346
Citations: Ritter, W; J Environ Sci Health 1990, B25, 1

Citations: Wauchope, R; J Environ Qual 1978, 7, 459
Citations: Wassmuth-Wagner, I; J Planar Chromatog 1989, 297, 303
Citations: Wolfe, N; Pesticides in soil environment: processes, impacts and modelling 1990, 103
Citations: Yaron, B; Soil Sci 1978, 125, 210 Approx. 30 groundwater monitoring wells, under a fruit prodn. field, in the Valley of the Neuquen River (Northern Patagonic, Argentina), to which different pesticides have been applied, were sampled 11 times between Oct. 1995 and Mar. 1997. Azinphos Me was the main pesticide applied and it was detected with the highest frequency in groundwater wells during the period of intensive pesticide application in the Southern Hemisphere. Dimethoate, methidathion, fosmet, cipermethrin, carbaryl, propoxur, carbofuran, benomyl and carbendazim were also detected with lower frequency. The characteristic of the area under study was alk. soil, with an org. matter content <2.5% and texture sandy clay loam. The half life of azinphos Me in soils was 166.2 days in the sun light for horizon A and 194.15 in the dark for horizon B. Leaching of azinphos Me through the different soil horizons was min. On the basis of our lysimeter lab. data, in which most of the pesticide was adsorbed into the soil column and only small quantities leachate, we inferred that the impact of azinphos Me on groundwater would be minimal. However, field data indicate that there is a persistence of azinphos Me in groundwater during the application season. [on SciFinder (R)] 0048-9697 groundwater/ pollution/ azinphos/ methyl/ Argentina

787. Loewy, R. M., Carvajal, L. G., Novelli, M., and Pechen de D'Angelo, A. M (2003). Effect of pesticide use in fruit production orchards on shallow ground water. *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes* B38: 317-325.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:320788
Chemical Abstracts Number: CAN 139:57440
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Groundwater pollution; Pesticides (effects of pesticide use in fruit prodn. orchards on shallow groundwater)
CAS Registry Numbers: 60-51-5 (Dimethoate); 86-50-0 (Azinphos methyl); 122-14-5 (Fenitrothion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyrifos) Role: POL (Pollutant), OCCU (Occurrence) (effects of pesticide use in fruit prodn. orchards on shallow groundwater)
Citations: 1) Boyd, R; Sci Total Environ 2000, 248, 241
Citations: 2) Kolpin, D; J Environ Qual 1997, 26, 1025
Citations: 3) Kolpin, D; Environ Sci Technol 1998, 32, 558
Citations: 4) Novak, J; Trans ASAE 1998, 41, 1383
Citations: 5) Spliid, N; Chemosphere 1998, 37, 1307
Citations: 6) Loewy, R; Sci Total Environ 1999, 225, 211
Citations: 7) Ares, J; Toxicol Environ Chem 1997, 67, 305
Citations: 8) US Environmental Protection Agency (EPA); Analysis of Pesticides Residues in Human and Environmental Samples: The Sampling and Analysis of Water for Pesticides 1984, Section 10a, 1
Citations: 9) Gustafson, D; Environ Toxicol Chem 1989, 8, 339
Citations: 10) Extention Toxicology Network Oregon State University; http://ace.orst.edu/info/extoxnet 2000
Citations: 11) Mayer, F; Resource Publication 1986, 160
Citations: 12) Richards, R; Environ Contam Toxicol 1993, 12, 13
Citations: 13) van der Werf, H; J Agric Ecosyst Environ 1996, 60, 81
Citations: 14) Bailey, H; Environ Toxicol Chem 1997, 16, 2304

Citations: 15) US EPA Office of Pesticide Programs; www.epa.gov/oppsrrd1/op 2000
Citations: 16) US EPA Office of Water; 2000 Drinking Water Standards and Health Advisories, EPA 822-B-00-001 As a part of landscape-scale study, groundwater samples were collected from 30 wells located in fruit prodn. farms belonging to the valley of Neuquen river during the period 1995-1998 and analyzed for organophosphate pesticides. As a consequence of the leaching process, groundwater from the Valley of Neuquen River frequently contained concns. of organophosphorus pesticides that exceeded acute toxicity risk ratios established to protect aquatic life. It was found that some pesticides, as azinphos Me, had a high detection frequency, 66% of the samples, with concns. varying from no detection to 48.9 ppb. Dimethoate, methidathion and phosmet were also detected with frequencies of 14.1, 13.6 and 10.8% and with concn. ranks from no detection to a max. value of 10.9, 2.0 and 15.5 ppb, resp. Seasonal variations and temporal trends were found for these compds. in groundwater. [on SciFinder (R)] 0360-1234 pesticide/ fruit/ orchard/ shallow/ groundwater

788. Logvinenko, V. F. and Morgun, V. V. ([Mutagenic Effect of Several Pesticides on Durum Spring Wheat]. *Tsitol genet. 1978 may-jun; 12(3):207-12. [Tsitologiia i genetika]: Tsitol Genet*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: Spraying of spring wheat plants during vegetation with herbicides of 2,4-D group and ethrel increased chromosome aberrations in meiosis 2.8-5, 3.6-4.1 times. The insecticides, chlorophos and phtalophos, in a little higher dosage than it is usually practised increased the spontaneous level of chromosome aberrations 3.1-5.5 times. Phtalophos also induced chlorophyll mutations. These results testify to the necessity of keeping strictly to the established normative doses, because of overdosage is of potential genetic danger to spring wheat crops.
MESH HEADINGS: 2,4-Dichlorophenoxyacetic Acid/toxicity
MESH HEADINGS: Chromosome Aberrations
MESH HEADINGS: Dose-Response Relationship, Drug
MESH HEADINGS: *Mutagens
MESH HEADINGS: Organophosphorus Compounds/toxicity
MESH HEADINGS: Pesticides/*toxicity
MESH HEADINGS: Phosmet/toxicity
MESH HEADINGS: Trichlorfon/toxicity
MESH HEADINGS: Triticum/*drug effects/genetics
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Izuchenie mutagennogo deĭstviia nekotorykh pestitsidov na iarovuiu tverduiu pshenitsu.

789. Lopez-Avila, V., Benedicto, J., and Bauer, K. M. (1998). Stability of Organochlorine and Organophosphorus Pesticides When Extracted From Solid Matrixes With Microwave Energy. *Journal of aoac international* 81: 1224-1232.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A stability study of 44 organochlorine pesticides (OCPs) and 47 organophosphorus pesticides (OPPs) was conducted. Compounds were spiked into solvent only (hexane-acetone, 1 + 1; methylene chloride-acetone, 1 + 1; methyl tert-butyl ether (MTBE); and toluene-methanol, 10 + 1), solvent/dry soil suspensions, and solvent/wet soil suspensions (20% water, w/w). Spiked matrixes were heated in closed vessels with microwave energy at 2 temperatures (50ę and 145ęC) for 5 or 20 min. For comparison and for determination of nitrogen blowdown losses, spiked matrixes that had not been exposed to microwave energy were concentrated by using the blowdown technique and analyzed for each of the spiked compounds. For OCPs, temperature had the most significant effect on compound recovery, followed by matrix. All 3 pairwise comparisons of the 3 matrix types were statistically significant. The solvent factor was also significant, with average recoveries of 97.8% with methylene chloride acetone,
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY

MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Pest Control
LANGUAGE: eng

790. Lopez-Avila, Viorica, Dodhiwala, N. S., and Beckert, Werner F (1990). Supercritical fluid extraction and its application to environmental analysis. *Journal of Chromatographic Science* 28: 468-76.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:57414
Chemical Abstracts Number: CAN 114:57414
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Process optimization (of supercrit. fluid extn. of pesticides and polynuclear arom. hydrocarbons from environment); Geological sediments (pesticide and polycyclic arom. hydrocarbon detn. in, supercrit. fluid extn. in); Sand Role: BIOL (Biological study) (pesticide and polycyclic arom. hydrocarbon detn. in, supercrit. fluid extn. in); Environmental analysis; Soil analysis (pesticide and polynuclear arom. hydrocarbon detn. in, by supercrit. fluid extn.); Aromatic hydrocarbons Role: ANT (Analyte), ANST (Analytical study) (polycyclic, detn. of, environmental, in soils and sediments, supercrit. fluid extn. in); Extraction (supercrit., in detn. of pesticides and polynuclear arom. hydrocarbons in soil anal.)
CAS Registry Numbers: 50-29-3 (4,4'-DDT); 50-32-8 (Benzo[a]pyrene); 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 53-70-3 (Dibenz[a,h]anthracene); 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 56-55-3 (Benzo[a}anthracene); 56-72-4; 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (4,4'-DDD); 72-55-9 (4,4'-DDE); 72-56-0 (Perthane); 76-44-8 (Heptachlor); 77-47-4 (Hexachlorocyclopentadiene); 82-68-8 (Pentachloronitrobenzene); 83-32-9 (Acenaphthene); 85-01-8 (Phenanthrene); 86-50-0 (Azinphos methyl); 86-73-7 (Fluorene); 87-86-5 (Pentachlorophenol); 91-20-3 (Naphthalene); 91-57-6 (2-Methylnaphthalene); 96-12-8 (DBCP); 97-17-6; 107-49-3 (TEPP); 115-90-2 (Fensulfothion); 118-74-1 (Hexachlorobenzene); 120-12-7 (Anthracene); 121-75-5 (Malathion); 122-14-5; 126-75-0 (Demeton-S); 129-00-0 (Pyrene); 132-64-9 (Dibenzofuran); 133-06-2 (Captan); 143-50-0 (Kepone); 150-50-5 (Merphos); 191-24-2 (Benzo[ghi]perylene); 193-39-5 (Indeno[1,2,3-cd]pyrene); 205-99-2 (Benz[e]acephenanthrylene); 206-44-0 (Fluoranthene); 207-08-9 (Benzo[k]fluoranthene); 208-96-8 (Acenaphthylene); 218-01-9 (Chrysene); 297-97-2 (Thionazin); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 300-76-5 (Naled); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 327-98-0 (Trichloronate); 333-41-5 (Diazinon); 465-73-6 (Isodrin); 470-90-6 (Chlorfenvinphos); 510-15-6 (Chlorobenzilate); 512-56-1 (Trimethyl phosphate); 563-12-2 (Ethion); 680-31-9 (Hexamethyl phosphoramide); 732-11-6 (Phosmet); 944-22-9; 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1330-78-5 (Tricresyl phosphate); 1582-09-8 (Trifluralin); 1897-45-6 (Chlorothalonil); 1918-16-7 (Propachlor); 2104-64-5 (EPN); 2303-16-4 (Diallate); 2385-85-5 (Mirex); 2593-15-9; 2642-71-9 (Azinphos ethyl); 2675-77-6 (Chloroneb); 2921-88-2 (Chlorpyrifos); 3244-90-4 (Aspon); 3689-24-5 (Sulfotepp); 5103-71-9 (a-Chlordane); 5566-34-7 (g-Chlordane); 5598-13-0 (Methyl chlorpyrifos); 5836-10-2 (Chloropropylate); 6923-22-4 (Monocrotophos); 7421-93-4 (Endrin aldehyde); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 15972-60-8 (Alachlor); 18368-11-1 (DCPA); 21609-90-5 (Leptophos); 22248-79-9 (Stirophos);

33213-65-9 (Endosulfan II); 34643-46-4 (Tokuthion); 35400-43-2 (Bolstar); 39765-80-5 (trans-Nonachlor); 53494-70-5 (Endrin ketone); 61949-77-7 (trans-Permethrin) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in soils and sediment materials, supercrit. fluid extn. in); 7631-86-9 Role: BIOL (Biological study) (sand, pesticide and polycyclic arom. hydrocarbon detn. in, supercrit. fluid extn. in) Sand, spiked with 41 organochlorine pesticides and 47 organophosphorus pesticides, is extd. with supercrit. CO2 at various pressures and temps., and the recoveries are detd. Two std. ref. materials certified for polynuclear arom. hydrocarbons are extd. under supercrit. conditions, and the data are compared with the certified values which have been detd. by conventional extn. techniques. There is a large discrepancy between the resulting data and the certified values. To explain the discrepancy, a preliminary method optimization study is conducted in which the influences on recoveries of seven variables are investigated. The study allows estn. of the main effects of the seven variables; however, the authors could not test the statistical significance of any of these effects. The results from the preliminary method optimization expts. indicate that, under the conditions used, recovery is most affected by extn. time and extn. pressure, followed by moisture content of the material and sample size. Finally, the approx. costs assocd. with setting up and using a supercrit. fluid extn. system in an anal. lab. are presented and are compared with those for Soxhlet extn. [on SciFinder (R)] 0021-9665 pesticide/ supercrit/ fluid/ extn/ soil/ analysis;/ environmental/ analysis/ supercrit/ fluid/ extn/ pesticide

791. Lopez-Avila, Viorica, Young, Richard, and Beckert, Werner F (1997). Online determination of organophosphorus pesticides in water by solid-phase microextraction and gas chromatography with thermionic-selective detection. *Journal of High Resolution Chromatography* 20: 487-492. Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:611592
Chemical Abstracts Number: CAN 127:238781
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Adsorption kinetics (of organophosphorus pesticides from water at polymer-coated fibers); Gas chromatography (online screening of organophosphorus pesticides in water by solid-phase microextn. and GC with thermionic-selective detection); Pesticides (organophosphorus; online screening of organophosphorus pesticides in water by solid-phase microextn. and GC with thermionic-selective detection); Microextraction (solid-phase; online screening of organophosphorus pesticides in water by solid-phase microextn. and GC with thermionic-selective detection); Mixing (stirring; effect of stirring on solid-phase microextn. of organophosphorus pesticides from water)
CAS Registry Numbers: 7647-14-5 (Sodium chloride (NaCl) Role: MOA (Modifier or additive use), USES (Uses) (effect on solid-phase microextn. of organophosphorus pesticides from water); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (online screening of organophosphorus pesticides in water by solid-phase microextn. and GC with thermionic-selective detection); 52-68-6; 52-85-7 (Famphur); 55-38-9 (Fenthion); 56-38-2 (Parathion-ethyl); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (DiChlorvos); 78-30-8 (Tri-o-cresylphosphate); 78-34-2 (Dioxathion); 86-50-0 (Azinphos-methyl); 97-17-6; 107-49-3 (Tepp); 115-90-2 (Fensulfothion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 126-75-0 (Demeton-S); 141-66-2 (Dicrotophos); 150-50-5 (Merphos); 297-97-2 (Thionazin); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 300-76-5 (Naled); 327-98-0 (Trichloronate); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 680-31-9 (HMPA); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 944-22-9 (Fonophos); 2104-64-5 (EPN); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyriphos); 3244-90-4 (Aspon); 3689-24-5 (Sulfotepp); 5598-13-0; 6923-22-4 (Monocrotophos); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 13071-79-9 (Terbuphos);

13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 21609-90-5 (Leptophos); 22248-79-9 (Stirophos); 34643-46-4 (Tokuthion); 35400-43-2 (Bolstar) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (online screening of organophosphorus pesticides in water by solid-phase microextn. and GC with thermionic-selective detection) This paper describes the extn. of 49 organophosphorus pesticides (OPPs) from water samples using solid-phase microextn. (SPME). Three fibers, including a 15-mm XAD-coated fiber, a 85-mm polyacrylate-coated fiber, and a 30-mm polydimethylsiloxane-coated fiber (PDMS), were evaluated here. The effects of stirring and the addn. of NaCl to the sample were examd. for the polyacrylate-coated fiber. The precision of the technique was examd. for all 3 fibers and the extn. kinetics were investigated using the XAD- and polyacrylate-coated fibers. With some exceptions, the XAD- and polyacrylate-coated fibers performed better than the PDMS-coated fiber. The superiority of the XAD- and polyacrylate-coated fibers over the PDMS-coated fiber can be attributed to the arom. functionalities of the XAD and the polar functionalities in the polyacrylate. The relatively high RSDs indicated that the SPME technique needs to be further refined before it can be used for anything other than screening. A more effective form of agitation than mech. stirring may be necessary to reduce variability and to achieve a faster equil. between the sample and the SPME fiber. [on SciFinder (R)] 0935-6304 organophosphorus/ pesticide/ screening/ water/ microextn/ GC;/ solid/ phase/ microextn/ organophosphorus/ pesticide/ water;/ chromatog/ gas/ organophosphorus/ pesticide/ detn/ water

792. Lou, Jian and Jalal, A. M. Awadh (2003). Capillary gas chromatography for determining residues of multiple organophosphorus pesticides in Radix Trichosanthis. *Yaowu Fenxi Zazhi* 23: 61-63. Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:440236
Chemical Abstracts Number: CAN 139:250449
Section Code: 64-3
Section Title: Pharmaceutical Analysis
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Trichosanthin Role: ANT (Analyte), ANST (Analytical study) (Tian Hua Fen; capillary gas chromatog. for detg. residues of organophosphorus pesticides in Radix Trichosanthis); Capillary gas chromatography (capillary gas chromatog. for detg. residues of organophosphorus pesticides in Radix Trichosanthis); Pesticides (organophosphorus; capillary gas chromatog. for detg. residues of organophosphorus pesticides in Radix Trichosanthis)
CAS Registry Numbers: 52-68-6 (Trichlorphon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 732-11-6 (Phosmet); 1113-02-6 (Omethoate); 10265-92-6 (Methamidophos) Role: ANT (Analyte), ANST (Analytical study) (capillary gas chromatog. for detg. residues of organophosphorus pesticides in Radix Trichosanthis); 67-64-1 (Acetone) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (capillary gas chromatog. for detg. residues of organophosphorus pesticides in Radix Trichosanthis)
Citations: 1) Anon; ChP 2000, I, 42
Citations: 2) Anon; Modern Traditional Material Medical Standard Dictionary 2001, 1, 300
Citations: 3) Andersson, H; Proceedings of the 7th international congress of pesticide chemistry entitled residue methodology, J Anal Chem 1991, 339, 265
Citations: 4) Miyahara, M; J Agric Food Chem 1994, 42, 2795
Citations: 5) Cai, C; Chromatographia 1995, 40, 417
Citations: 6) Torres, C; J Chromatogr A 1996, 719, 95
Citations: 7) Simplycio, L; J Chromatogr A 1999, 833, 35
Citations: 8) Mastovska, K; J Chromatogr A 2001, 907, 235
Citations: 9) Schenck, F; J Chromatogr A 2000, 868, 51 A capillary gas chromatog. (CGC) method for the detn. of organophosphorus insecticide residue in the Chinese herbal medicine Radix Trichosanthis (Tianhuafen) was described. Tianhuafen was extd. with acetone, the ext. was

not subjected to any clean-up procedure. The organophosphorus insecticide residues were detd. by GC with flame photometric detection and AT - 1701 capillary column was used for the temp. - programmed chromatog. detn. of pesticide residues. High recoveries of 8 organophosphorus insecticides fortified at 0.01, 0.1, and 1.0 mg kg-1 were obtained. The limit of detection ranged from 0.0020 to 0.016 5 ng. This method was simple, rapid with good reproducibility. [on SciFinder (R)] 0254-1793 capillary/ gas/ chromatog/ organophosphorus/ pesticide/ Tianhuafen

793. Louzao, M. J., Leiros, M. C., and Guitian, F. (1990). Study of Buffering Systems in Soils From Galicia, Northwest Spain. *Water air soil pollut* 49: 17-34.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The effects of acid rain on surface horizon of five soils from Galicia and the buffer capacity of these soils with respect to the addition of H+ were studied. Soil samples were placed in percolating tubes with a diameter of 7.5 cm. The diluted acid treatment, composed of distilled water acidified with HCl to a pH value of 3, was applied to each duplicate soil core at a drip-rate of 2.8 mL min-1, for 8 hr d-1 over 18 days. The acid addition produced an associated leachate of both organic and inorganic anions and cations, although behavior patterns differed: a quick leach of labile forms (probably soluble forms) and a slower leach of more retained form (most likely to be exchangeable forms and/or products dissolved from solid phases). The organic C decreased and the N increased as the percolates became more acidic. The neutralizing mechanisms for each of the soils used in the experiment corresponded in general terms to the buffer capacity that was to be expected given the
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
KEYWORDS: Biochemical Studies-General
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
LANGUAGE: eng

794. Love, Bruce and Cornick, Gary (1970). Physical properties of a polyoxyethylene sorbitan monooleate micelle. *Chemistry and Physics of Lipids* 4: 191-196.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The nonionic surfactant, Emasol 4130, forms micelles of molecular weight equal to 68 900. Data from light scattering, viscosity, and diffusion studies indicate that the micelle is rod like rather than spherical, and that the equivalent prolate elipsoid would have an axial ratio of 12. The physical constants are found to be D20 = 6.0 x 10-7, [[eta]] = 0.064 dl g-1, and [beta] = 2.61 x 10-6. http://www.sciencedirect.com/science/article/B6T2N-47P9F27-FX/2/765ac8fda7404705d9ca95d6fa6f2f52

795. Lovely, L. P., Appa Rao, K. B., Gui, Y., and Lessey, B. A. (Characterization of Androgen Receptors in a Well-Differentiated Endometrial Adenocarcinoma Cell Line (Ishikawa). *J steroid biochem mol biol. 2000, nov 15; 74(4):235-41. [The journal of steroid biochemistry and molecular biology]: J Steroid Biochem Mol Biol*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: Androgen receptors (AR) have been identified in the human endometrium, but their role in endometrial function and development towards endometrial receptivity remains poorly understood. In an effort to study the regulation and possible function in endometrial epithelium, we utilized the well-differentiated endometrial adenocarcinoma cell line, Ishikawa, as a model system. This cell line has proven to be stable, hormonally responsive, contains both estrogen and progesterone receptors, and has been shown to express endometrial proteins in a hormone responsive manner. In the present study, we demonstrate that Ishikawa cells also express AR,

based on immunohistochemical staining, radioactive binding studies, RT-PCR and Northern blot analysis. The expression of AR is induced in Ishikawa cells by estrogens, similar to that reported for normal endometrium. Further, using an estrogen-responsive gene that has been characterized in this cell line, alkaline phosphatase, we show that androgens act as antiestrogens in diethylstilbestrol (DES) treated cells, inhibiting enzymatic activity in a dose-dependent manner. These data support a physiologic role for AR in the endometrium. Elevations in endometrial AR in certain clinical situations such as polycystic ovarian syndrome (PCOS) may amplify the effects of androgens on the endometrium leading to suspected defects in uterine receptivity, higher than expected infertility and high miscarriage rates observed in patients with this disorder.
MESH HEADINGS: Adenocarcinoma/metabolism
MESH HEADINGS: Alkaline Phosphatase/drug effects/metabolism
MESH HEADINGS: Androgens/metabolism/pharmacology
MESH HEADINGS: Cell Differentiation
MESH HEADINGS: Cell Nucleus/metabolism
MESH HEADINGS: Diethylstilbestrol/pharmacology
MESH HEADINGS: Dihydrotestosterone/pharmacology
MESH HEADINGS: Endometrial Neoplasms/metabolism
MESH HEADINGS: Endometrium/*metabolism
MESH HEADINGS: Estradiol/*analogs &amp
MESH HEADINGS: derivatives/pharmacology
MESH HEADINGS: Estrogen Receptor Modulators/metabolism
MESH HEADINGS: Estrogens/metabolism/pharmacology
MESH HEADINGS: Female
MESH HEADINGS: Flutamide/*analogs &amp
MESH HEADINGS: derivatives/pharmacology
MESH HEADINGS: Humans
MESH HEADINGS: Metribolone/metabolism/pharmacology
MESH HEADINGS: Progesterone/metabolism/pharmacology
MESH HEADINGS: Receptors, Androgen/drug effects/genetics/*metabolism
MESH HEADINGS: Reverse Transcriptase Polymerase Chain Reaction
MESH HEADINGS: Tumor Cells, Cultured
LANGUAGE: eng

796. Lovenstein, H. M., Berliner, P. R., and van Keulen, H. (1991). Runoff agroforestry in arid lands. *Forest Ecology and Management* 45: 59-70.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Biomass production in arid zones may be increased without irrigation by using runoff farming techniques. The salient feature of this technique is that large amounts of water are collected a few times per year and percolate deep into the soil. The combined cultivation of shallow rooting annuals and deep rooting perennials (agroforestry) was proposed as a method by which fodder and firewood could be simultaneously produced and stored water used efficiently. As a first step to test the feasibility of this proposal, Acacia salicina and Eucalyptus occidentalis were grown at two densities (625 and 1250 trees ha-1) in runoff catchment basins in the Northern Negev Desert of Israel (average rainfall: 115 mm a-1). Biomass, soil moisture content and some plant physiological parameters were periodically recorded. Total above-ground dry matter after three years was 15 and 19 t ha-1 for A. salicina and 25 and 28 t ha-1 for E. occidentalis at low and high density, respectively. Soil water balance studies during the growing season indicate that for the conditions under which this trial was carried out, tree roots do not explore the upper soil layers efficiently and that relatively high leaf water potential can be maintained by taking up water from deeper layers. These results suggest that water from surface layers could be used by annual crops without affecting production of the perennial crop. http://www.sciencedirect.com/science/article/B6T6X-48XMKY9-YG/2/626f978fd6aa83f58733d481ddbd9983

797. Loyalka, S. K. and Griffin, J. L. (1994). Rotation of non-spherical axi-symmetric particles in the slip regime. *Journal of Aerosol Science* 25: 509-525.

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Aerosol particles are often non-spherical, and the shape has an important influence on the frictional drag and torque, and hence the Brownian motion, the deposition, the sampling and the coagulation of the particles. Since the particle sizes of interest span a wide range, it is important to have experimental as well as theoretical understanding of the frictional drag and torque for particles of arbitrary shapes and sizes. It is also desirable to know the extent to which some useful shape factors can be defined. In recent years there has been considerable progress in the study of non-spherical particles in the continuum regime (low Reynolds number hydrodynamics), and the problem of frictional torque has been solved numerically. This paper addresses the problem of frictional torque of non-spherical axi-symmetric particles at low Reynolds number but with slip boundary conditions. The use of slip boundary conditions is pertinent in aerosol dynamics as it permits consideration of particles in an important size range, where use of a zero slip condition cannot be justified, especially locally, because of the large curvatures of some non-spherical particles. The slip condition does introduce a few complications, both conceptual and numerical. This paper shows that the problem of the rotation of non-spherical axi-symmetric particles with slip conditions can be converted to an integral equation, which can be solved quite effectively by subtraction of singularity and use of quadrature techniques. As an example, numerical results for spheroids (oblate/prolate) are reported, and are shown to be in excellent agreement with analytical results obtained through series expansions. First order approximations to the solution of the underlying equations are given and dependence of the torque on the aspect ratio and Knudsen number is also explored. http://www.sciencedirect.com/science/article/B6V6B-4893VYW-3H/2/db02e0dfa1f44c769a69925a44266cf4

798. Lu, Chensheng, Fenske, Richard A., Simcox, Nancy J., and Kalman, David (2000). Pesticide Exposure of Children in an Agricultural Community: Evidence of Household Proximity to Farmland and Take Home Exposure Pathways. *Environmental Research* 84: 290-302.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 2000:836670
Chemical Abstracts Number: CAN 134:151640
Section Code: 59-2
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Development; Hand; Skin (child; pesticide exposure of children in an agricultural community in central Washington State in relation to household proximity to farmland and take-home exposure pathways); Dust (house; pesticide exposure of children in an agricultural community in central Washington State in relation to household proximity to farmland and take-home exposure pathways); Urine (human, organophosphorus pesticide metabolites in; pesticide exposure of children in an agricultural community in central Washington State in relation to household proximity to farmland and take-home exposure pathways); Pesticides (organophosphorus; pesticide exposure of children in an agricultural community in central Washington State in relation to household proximity to farmland and take-home exposure pathways); Air pollution (particulate; pesticide exposure of children in an agricultural community in central Washington State in relation to household proximity to farmland and take-home exposure pathways); Air pollution (pesticide exposure of children in an agricultural community in central Washington State in relation to household proximity to farmland and take-home exposure pathways); Organic compounds Role: POL (Pollutant), OCCU (Occurrence) (phosphorus-contg.; pesticide exposure of children in an agricultural community in central Washington State in relation to household proximity to farmland and take-home exposure pathways)
CAS Registry Numbers: 86-50-0 (Azinphos methyl); 732-11-6 (Phosmet); 7723-14-0D

(Phosphorus) Role: POL (Pollutant), OCCU (Occurrence) (pesticide exposure of children in an agricultural community in central Washington State in relation to household proximity to farmland and take-home exposure pathways)
Citations: Baker, E; New Engl J Med 1997, 296, 260
Citations: Buckley, J; Cancer Res 1989, 49, 4030
Citations: Clark, J; Bull Environ Contam Toxicol 1991, 46, 829
Citations: Daniels, J; Environ Health Perspect 1997, 105, 1068
Citations: Dolcourt, J; Pediatrics 1978, 62, 563
Citations: Fox, R; Trans ASAE 1993, 36, 330
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Citations: International Life Sciences Institute; Workshop on Aggregate Exposure Assessment 1998
Citations: Leiss, J; Am J Public Health 1995, 85, 250
Citations: Loewengart, R; J Natl Cancer Inst 1987, 79, 39
Citations: Loewenherz, C; Environ Health Perspect 1997, 105, 1344
Citations: MacNeil, J; J Environ Sci Health 1986, 21, 375
Citations: National Research Council; Pesticides in the Diets of Infants and Children 1993
Citations: NIOSH; Report to Congress on Worker's Home Contamination Study Conducted Under the Workers' Family Protection Act (29 USC 671a) 1995
Citations: O'Leary, L; Am J Ind Med 1991, 20, 17
Citations: Piacitelli, G; Am Ind Hyg Assoc J 1997, 58, 447
Citations: Richter, E; Israel J Med Sci 1992, 28, 584
Citations: Roberts, J; Proceedings of the Annual Meeting of the Air and Waste Management Association 1991
Citations: Savitz, D; Environ Health Perspect 1990, 88, 325
Citations: Shu, X; Cancer 1988, 62, 635
Citations: Simcox, N; Environ Health Perspect 1995, 103, 1126
Citations: USDA; Pesticide Data Program--Annual Summary, Calendar Year 1997 1997
Citations: Whelan, E; Am J Public Health 1997, 87, 1352 Children's exposure to organophosphorus (OP) pesticides in an agricultural community in central Washington State was detd. Spot urine and hand wipe samples were collected from 109 children 9 mo to 6 yr of age, as were house dust samples and wipe samples from various surfaces. Children were categorized based on parental occupation (agricultural vs. nonagricultural) and on household proximity to pesticide-treated orchards. Median house dust concns. of di-Me OP pesticides in homes of agricultural families were seven times higher than in those of ref. families (1.92 vs 0.27 mg/g; P <0.001). Median pesticide metabolite concns. in agricultural children were five times higher than those in ref. children (0.05 vs 0.01 mg/mL; P = 0.09). Median pesticide concns. in house dust (P = 0.01) and metabolite concns. in urine (P = 0.01) from agricultural families were significantly higher in the children living near treated orchards (within 200 ft or 60 m) than those living more distant. Ten of 61 agricultural children had detectable OP pesticide levels on their hands, whereas none of the ref. children had detectable levels. These findings indicate that children living with parents who work with agricultural pesticides or who live in proximity to pesticide-treated farmland have higher exposures than do other children living in the same community. (c) 2000 Academic Press. [on SciFinder (R)] 0013-9351 pesticide/ exposure/ route/ children/ agricultural/ community/ Washington/ State

799. Lu, Gui-Ning, Dang, Zhi, Tao, Xue-Qin, Chen, Xiao-Peng, Yi, Xiao-Yun, and Yang, Chen (2007). Quantitative structure-activity relationships for enzymatic activity of chloroperoxidase on metabolizing organophosphorus pesticides. *QSAR & Combinatorial Science* 26: 182-188.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

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Database: CAPLUS
Accession Number: AN 2007:262533
Chemical Abstracts Number: CAN 146:416712
Section Code: 5-4

Section Title: Agrochemical Bioregulators
CA Section Cross-References: 4, 7
Document Type: Journal
Language: written in English.
Index Terms: Dipole moment; HOMO; LUMO; Polarity; Total energy (QSAR models for predicting enzymic activity of chloroperoxidase in metabolizing organophosphorus pesticides); Electric charge (at.; QSAR models for predicting enzymic activity of chloroperoxidase in metabolizing organophosphorus pesticides); Pesticides (organophosphorus; QSAR models for predicting enzymic activity of chloroperoxidase in metabolizing organophosphorus pesticides); QSAR (predicting enzymic activity of chloroperoxidase in metabolizing organophosphorus pesticides with QSAR models)
CAS Registry Numbers: 9055-20-3 (Chloroperoxidase) Role: BSU (Biological study, unclassified), BIOL (Biological study) (QSAR models for predicting enzymic activity of chloroperoxidase in metabolizing organophosphorus pesticides); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 86-50-0 (Azinphos-methyl); 97-17-6 (Dichlofenthion); 299-84-3 (Fenchlorphos); 500-28-7 (Chlorthion); 732-11-6 (Phosmet); 2921-88-2 (Chlorpyrifos); 13071-79-9 (Terbufos) Role: BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (QSAR models for predicting enzymic activity of chloroperoxidase in metabolizing organophosphorus pesticides)

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Citations: 40) Lu, G; Environ Chem 2005, 24, 459
Citations: 41) Lu, G; J Theor Comput Chem 2005, 4, 811
Citations: 42) Trohalaki, S; Comput Chem 2000, 24, 421
Citations: 43) Wang, Z; QSAR Comb Sci 2005, 24, 211 QSAR is a powerful approach for predicting activities of org. pollutants with their structure descriptors. This study reports QSAR models for predicting enzymic activity of chloroperoxidase on metabolizing selected organophosphorus pesticides (OPPs). The authors used ten quantum chem. descriptors computed with the ab initio method at HF/6-31G(d) level and partial least squares (PLS) anal. with optimizing procedure for generating QSAR models. The correlation coeff. of the optimal model was 0.918, and the fitting results showed that it had high fitting precision and good predicting ability. The PLS assistant anal. indicated that the at. charges of sulfur and phosphorus atoms in the S:P bond of an OPP mol. were important in governing the enzymic activity, and the mol. dipole moment also had some effect on the enzymic activity. OPPs with high abs. values of at. charges on the sulfur and phosphorus atoms tended to be metabolized faster, whereas OPPs with stronger polarity tended to be metabolized slower by chloroperoxidase. The optimal model was used to predict the enzymic activity of two OPPs, and the results appeared to be reasonable. [on SciFinder (R)] 1611-020X QSAR/ chloroperoxidase/ metab/ organophosphorus/ pesticide

800. Luke, Milton A., Froberg, Jerry E., Doose, Gregory M., and Masumoto, Herbert T (1981). Improved multiresidue gas chromatographic determination of organophosphorus, organonitrogen, and organohalogen pesticides in produce, using flame photometric and electrolytic conductivity detectors. *Journal - Association of Official Analytical Chemists* 64: 1187-95.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1981:585658
Chemical Abstracts Number: CAN 95:185658
Section Code: 17-1
Section Title: Foods
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in fruit and vegetable, gas-chromatog.); Fruit; Vegetable (pesticides detn. in, gas-chromatog.)
CAS Registry Numbers: 52-68-6; 55-38-9; 60-57-1; 62-73-7; 72-20-8; 72-54-8; 72-55-9; 78-48-8; 82-68-8; 99-30-9; 103-17-3; 114-26-1; 115-32-2; 115-90-2; 116-29-0; 122-14-5; 122-42-9; 133-06-2; 133-07-3; 141-66-2; 148-79-8; 297-97-2; 299-84-3; 300-76-5; 301-12-2; 311-45-5; 319-84-6; 319-85-7; 330-55-2; 470-90-6; 732-11-6; 834-12-8; 944-22-9; 950-10-7; 950-37-8; 953-17-3; 1024-57-3; 1031-07-8; 1113-02-6; 1634-78-2; 1897-45-6; 2104-64-5; 2104-96-3; 2310-17-0; 2312-35-8; 2385-85-5; 2425-06-1; 2439-01-2; 2588-03-6; 2588-04-7; 2588-06-9; 2597-03-7; 2642-71-9; 2921-88-2; 7287-19-6; 10311-84-9; 13171-21-6; 13457-18-6; 14816-17-2; 14816-18-3; 16662-85-4; 16752-77-5; 17040-19-6; 18181-80-1; 21087-64-9; 21609-90-5; 22224-92-6; 22248-79-9; 23950-58-5; 24017-47-8; 33213-65-9; 34643-47-5; 35400-43-2; 41198-08-7; 50471-44-8; 52645-53-1; 58877-92-2; 60238-56-4 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in fruit and vegetable, gas-chromatog.) The multiresidue procedure of Luke et al. (1975), which uses extn. with Me2CO and partition with petroleum ether and CH2Cl2, was simplified and shortened by eliminating the Florisil cleanup. Double concn. with petroleum ether in the Kuderna-Danish evaporator following the initial concn. removed the last traces of CH2CL2. The ext. was then injected into a gas chromatograph, using a Hall electrolytic cond. detector for organohalogen, organonitrogen, and organosulfur pesticides or a flame photometric detector for organophosphorus pesticides. Recoveries of 79 pesticides are presented. [on SciFinder (R)] 0004-5756 pesticide/ detn/ fruit/ vegetable;/ gas/ chromatog/ pesticide

801. Luke, Milton A., Froberg, Jerry E., and Masumoto, Herbert T (1975). Extraction and cleanup of organochlorine, organophosphate, organonitrogen, and hydrocarbon pesticides in produce for determination by gas-liquid chromatography. *Journal - Association of Official Analytical Chemists* 58: 1020-6.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1975:576802
Chemical Abstracts Number: CAN 83:176802
Section Code: 17-1
Section Title: Foods
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (chlorine- and phosphorus-contg., detn. in food); Food analysis; Fruit; Plant analysis; Vegetable (pesticides detn. in, multiresidue)
CAS Registry Numbers: 50-29-3; 56-38-2; 57-74-9; 60-51-5; 63-25-2; 76-44-8; 78-48-8; 86-50-0; 90-43-7; 92-52-4; 94-11-1; 121-75-5; 122-34-9; 298-00-0; 298-02-2; 309-00-2; 314-40-9; 333-41-5; 563-12-2; 732-11-6; 741-58-2; 786-19-6; 957-51-7; 959-98-8; 1836-75-5; 1861-32-1; 1912-24-9; 7786-34-7; 8001-35-2; 10265-92-6; 30560-19-1 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in food) In a rapid, multiresidue procedure utilizing the min. cleanup necessary for gas-liq. chromatog. (GLC) anal., the samples were extd. with Me2CO and partitioned with CH2Cl2-petroleum ether to remove water. The org. P and org. N compds. were then quantitated by GLC, using a KCl thermionic detector. A Florisil cleanup of the ext. was performed prior to the detn. of org. Cl compds. by a GLC electron capture detector. C-H compds. such a biphenyl and o-phenylphenol underwent the Florisil cleanup and were also quantitated by GLC. Quant. recoveries for 15 org. P, 9 org. Cl, 5 org. N, and 2 hydrocarbon pesticides showed the range in polarities of pesticides recovered, from Monitor to biphenyl. The method was simple and fast with a great potential for the anal. of many more compds. [on SciFinder (R)] 0004-5756 pesticide/ residue/ food/ detn

802. Luke, Milton A., Masumoto, Herbert T., Cairns, Thomas, and Hundley, Harvey K (1988). Levels and incidences of pesticide residues in various foods and animal feeds analyzed by the Luke multiresidue methodology for fiscal years 1982-1986. *Journal - Association of Official Analytical Chemists* 71: 415-33.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1988:472182
Chemical Abstracts Number: CAN 109:72182
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Feed contamination; Food contamination (by pesticides, in California); Pesticides (of food and feed of California); Crucifer (pesticides of greens of, of California); Actinidia chinensis; Apple; Apple juice; Apricot; Artichoke; Asparagus; Banana; Basil; Bean; Beet; Blackberry; Blueberry; Boysenberry; Broad bean; Broccoli; Brussels sprout; Cabbage; Cactus; Carrot; Cauliflower; Celery; Chayote; Cherry; Chickpea; Chicory; Coriander; Corn; Cucumber; Currant; Cyphomandra betacea; Date; Eggplant; Endive; Feijoa; Fig; Fruit; Gooseberry; Grape; Grapefruit; Hop; Kale; Kohlrabi; Kumquat; Lavender; Leek; Lemon; Lettuce; Lime; Mandarin orange; Melon; Nectarine; Okra; Onion; Orange; Orange juice; Oregano; Pakchoi; Papaya; Parsley; Pea; Peach; Peanut; Pear; Physalis ixocarpa; Pineapple; Plum; Portulaca oleracea; Potato; Prune; Radicchio; Radish; Raisin; Raphanus sativus longipinnatus; Raspberry; Rosemary;

Rutabaga; Solanum muricatum; Spinach; Strawberry; Tangelo; Tarragon; Tomato; Tomato juice; Tomato paste, puree, and sauce; Turnip; Valerianella locusta; Vegetable; Vigna radiata; Watermelon; Wheat; Wine (pesticides of, of California); Beet (Swiss chard, pesticides of, of California); Hay (alfalfa, pesticides of, of California); Tomato (canned, pesticides of, of California); Capsicum annuum annuum (grossum group, pesticides of, of California); Alfalfa (hay, pesticides of, of California); Sorghum (silage, pesticides of, of California); Silage (sorghum, pesticides of, of California); Cucurbita (squash, pesticides of, of California); Mandarin orange (tangerine, pesticides of, of California); Canned foods (tomatoes, pesticides of, of California); Passionflower (P. edulis, pesticides of, of California); Bean (P. limensis, pesticides of, of California)
CAS Registry Numbers: 50-29-3; 51-79-6 (Ethyl carbamate); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5; 60-57-1 (Dieldrin); 63-25-2; 72-20-8 (Endrin); 72-43-5; 72-54-8; 72-55-9; 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-48-8 (DEF); 82-68-8 (Quintozene); 86-50-0; 99-30-9 (Dicloran); 101-05-3 (Anilazine); 115-32-2; 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-39-4 (Diphenylamine); 133-06-2; 133-07-3 (Folpet); 148-79-8; 298-00-0 (Methyl parathion); 298-01-1; 311-45-5; 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 330-55-2; 333-41-5; 338-45-4; 510-15-6; 527-20-8; 563-12-2 (Ethion); 732-11-6; 786-19-6; 789-02-6; 950-37-8; 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1241-94-7 (Diphenyl 2-ethylhexyl phosphate); 1582-09-8 (Trifluralin); 1634-78-2; 1646-87-3 (Aldicarb sulfoxide); 1861-32-1; 1897-45-6; 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2496-91-5; 2497-06-5 (Disulfoton sulfone); 2921-88-2; 3424-82-6; 6923-22-4; 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 10265-92-6 (Methamidophos); 13121-70-5 (Cyhexatin); 16752-77-5; 22248-79-9 (Gardona); 23103-98-2 (Pirimicarb); 23950-58-5; 29232-93-7 (Pirimiphos-methyl); 29820-16-4 (Hydroxy diazinon); 30560-19-1 (Acephate); 32809-16-8; 33213-65-9; 35554-44-0 (Imazalil); 36734-19-7; 43121-43-3 (Triadimefon); 50471-44-8; 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 55219-65-3 (Triadimenol); 57837-19-1 (Metalaxyl); 60238-56-4 (Chlorthiophos) Role: BIOL (Biological study) (of food and feed of California) From 1982 to 1986, the FDA Los Angeles District Lab. analyzed 19,851 samples of domestic and imported food and feed commodities for pesticide residues. The single, rapid, multiresidue method of M. A. Luke et al. (1983), with appropriate modifications, was used. The data were compiled to show the commodities sampled and the identity and range of levels of pesticide residues detected, including an indication of those residue findings that did not comply with U.S. federal tolerance levels. The residue data presented are not representative of the U.S. food supply; rather, the results are indicative of a surveillance- and compliance-oriented sampling of various food shipments collected by the Los Angeles District.
[on SciFinder (R)] 0004-5756 pesticide/ food/ feed/ California

803. Luke, Milton A., Yee, Sally, Nicholson, Alondra E., Cortese, Kathleen M., and Masumoto, Herbert T (1996). Analytical approach of multiresidue analysis of foods by the use of solid phase extraction technology. *Seminars in Food Analysis* 1: 11-26.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:258838
Chemical Abstracts Number: CAN 126:316541
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Melon (honeydew, pesticide detection in; anal. approach of multiresidue anal. of foods by use of solid phase extn. technol.); Food analysis (of high- and low-moisture and fatty foods; anal. approach of multiresidue anal. of foods by use of solid phase extn. technol.); Apple; Bean; Blackberry; Capsicum annuum; Capsicum frutescens; Egg; Fish; Lettuce; Milk; Orange; Pea; Potato; Strawberry; Tomato; Watermelon (pesticide detection in; anal. approach of multiresidue anal. of foods by use of solid phase extn. technol.); Pesticides (polar and nonpolar;

anal. approach of multiresidue anal. of foods by use of solid phase extn. technol.); Extraction (solid-phase; anal. approach of multiresidue anal. of foods by use of solid phase extn. technol.) CAS Registry Numbers: 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-55-9; 86-50-0 (Methyl-azinphos); 99-30-9 (Dichloran); 101-21-3 (Chlorpropham); 121-75-5 (Malathion); 133-06-2 (Captan); 338-45-4 (b-Mevinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 1861-32-1 (Dacthal); 1912-24-9 (Atrazine); 2497-06-5 (Disulfoton sulfone); 2921-88-2 (Chlorpyrifos); 10265-92-6 (Methamidophos); 30560-19-1 (Acephate); 33213-65-9 (Endosulfan II); 36734-19-7 (Iprodione); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), ANST (Analytical study) (anal. approach of multiresidue anal. of foods by use of solid phase extn. technol.) Anal. multiresidue procedures for the anal. of high-moisture and low-moisture foods as well as fatty foods are presented which use solid phase extn. technol. to remove natural sample components from the assay soln. The removal of these components eliminates the need to do further cleanups when analyzing residues below 0.1 ppm. The scope of the procedures covers polar and nonpolar pesticides ranging from DDE to methamidophos. [on SciFinder (R)] 1084-2071 solid/ phase/ extn/ multiresidue/ food/ analysis;/ pesticide/ food/ analysis/ solid/ phase/ extn

804. Luke, Robert L. (1984). Glomerular permselection: Shape and flow. *Journal of Theoretical Biology* 106: 141-156.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

The selective permeability of the glomerular basement membrane to macromolecules is a function of the size and charge of the macromolecule. Evidence suggests that shape may also be a factor. The orientation of macromolecules in solution is dependent on their size, shape, and frictional interactions with moving solvent molecules. The spaces between the glomerular visceral epithelial cells (slit pores) may produce a non-uniform distribution of fluid flow within the basement membrane, and this non-uniformity may increase during disease. This report is of a model that relates the filtration of rigid prolate ellipsoidal (cigar) shaped macromolecules to the size and shape of the filter and to the velocity of solvent flow. The calculations, using published macromolecular and glomerular parameters correspond well to published data. The glomerular visceral epithelial cell, by altering the number, size and distribution of the intercellular spaces, may regulate the passage of ellipsoidal shaped macromolecules, such as albumin and IgG, into and through glomerular structures. http://www.sciencedirect.com/science/article/B6WMD-4F1SV94-4B/2/5450eb76399e0a48c545ba112ee61b9c

805. Luo, Y., Qiao, X., Song, J., Christie, P., and Wong, M. (Use of a Multi-Layer Column Device for Study on Leachability of Nitrate in Sludge-Amended Soils. *Chemosphere. 2003, sep; 52(9):1483-8. [Chemosphere]: Chemosphere*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

ABSTRACT: This paper described a multi-layer column device constructed with six cylindrical polythene tubes with installation of Rhizon soil moisture samplers (Rhizon SMS). The feasibility of using the column device to collect soil solution and percolate and to monitor leachability of nitrate in two sludge-amended soils was evaluated under glasshouse conditions. The soil moisture sampler in the device was demonstrated to be a non-destructive, simultaneous, sequential, convenient and rapid sampling tool for multiple-site porewater extraction. The device provided an in situ monitoring technique for leachability of nitrate in a soil profile following application of the anaerobically digested sewage sludge. The monitored results showed that surface soil amendment of the sewage sludge increased markedly the concentration of nitrate in the soil solutions at depths of 10-30 cm in a neutral paddy soil and at 30-50 cm in an acid red paddy soil. This amendment also largely increased nitrate in the percolates of the acid red soil. The movement and distribution patterns of nitrate in the profile were related to soil types, profile depths and experimental periods. Land application of sewage sludge may pose a risk in groundwater contamination of nitrate.
MESH HEADINGS: Environmental Monitoring/*instrumentation/methods
MESH HEADINGS: Hydrogen-Ion Concentration

MESH HEADINGS: Kinetics
MESH HEADINGS: Nitrates/analysis/*chemistry
MESH HEADINGS: Sewage/*chemistry
MESH HEADINGS: Soil/analysis
MESH HEADINGS: Soil Pollutants/*analysis
MESH HEADINGS: Solubility
LANGUAGE: eng

806. Luo, Yongming, Qiao, Xianliang, Song, Jing, Christie, Peter, and Wong, Minghung (2003). Use of a multi-layer column device for study on leachability of nitrate in sludge-amended soils: Environmental and Public Health Management. *Chemosphere* 52: 1483-1488.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

This paper described a multi-layer column device constructed with six cylindrical polythene tubes with installation of Rhizon soil moisture samplers (Rhizon SMS). The feasibility of using the column device to collect soil solution and percolate and to monitor leachability of nitrate in two sludge-amended soils was evaluated under glasshouse conditions. The soil moisture sampler in the device was demonstrated to be a non-destructive, simultaneous, sequential, convenient and rapid sampling tool for multiple-site porewater extraction. The device provided an in situ monitoring technique for leachability of nitrate in a soil profile following application of the anaerobically digested sewage sludge. The monitored results showed that surface soil amendment of the sewage sludge increased markedly the concentration of nitrate in the soil solutions at depths of 10-30 cm in a neutral paddy soil and at 30-50 cm in an acid red paddy soil. This amendment also largely increased nitrate in the percolates of the acid red soil. The movement and distribution patterns of nitrate in the profile were related to soil types, profile depths and experimental periods. Land application of sewage sludge may pose a risk in groundwater contamination of nitrate.
Leachability/ Nitrate/ Rhizon SMS/ Sewage sludge/ Soil solution
http://www.sciencedirect.com/science/article/B6V74-48VTC3B-6/2/254ce5c25902edc26911c64567acbc7c

807. Lupi, C., Bucchi, A. R., Piccioni, A., and Zapponi, G. A. (The Environmental Behavior of Chemicals in Soil: Atrazine as an Example. *Ecotoxicol environ saf. 1988, oct; 16(2):133-42. [Ecotoxicology and environmental safety]: Ecotoxicol Environ Saf.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, MODELING.

ABSTRACT: In this work a mathematical model has been developed and used to estimate the soil vertical distribution of Atrazine dispersed in the environment. Water transport, rise due to capillarity, and partition among soil-contained water, air, and organic matter, as well as degradation processes, are considered. As far as the vertical mobility in soil is concerned, the model has been derived from that proposed by P. H. Nichols, A. Walker, and R. J. Baker [1982). Pestic. Sci. 12, 484-494). Such a model has been extended to include a procedure which takes into account the Atrazine mobility due to gravitational water flow. The organic carbon (O.C.) concentration gradient in soil was also considered in the evaluation when assessing partition processes, according to models by P. J. McCall et al. [1983). Residue Rev. 13, 231-241) and D. McKay and S. Paterson [1982). Environ. Sci. Technol. 16, 12, 654). The degradation processes are assumed to be first order, linearly related with O.C. content in soil. The application of this model to two sets of soil data demonstrated that Atrazine requires a long time (2 years or more, depending on soil features) in order to percolate at a depth comparable with those of a groundwater source.
MESH HEADINGS: *Atrazine
MESH HEADINGS: Mathematics
MESH HEADINGS: *Models, Theoretical
MESH HEADINGS: *Soil Pollutants
LANGUAGE: eng

808. Lyle, Charles R., Marrale, Michael, and Snelling, Ronald (2004). Improvements in Pesticide Detection by

GCMS. LAKES04-189.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:952677
Document Type: Conference; Meeting Abstract
Coden: 69FWBR
Language: written in English. Improving anal. of pesticides in matrixes requires advances in sample handling and detection. Higher flow capacity of newer GCMS systems allow higher sample loading flow with programmed septum purge for the injection port. Improved system inertness and sensitivity dramatically increases detection capability. Samples were prepd. and submitted by the USDA Research Facility, Idaho. A Shimadzu QP-2010 GCMS was used in EI mode with std. GC-2010 with split/splitless injection. The column was a Restek XTI-5 30m x 0.25mm id x 0.25um phase. A Siltex liner for the GC-2010 was substituted during the anal. process. Samples were injected while the injection port was initially set to 150 DegC then ramped to 290 DegC. The injection port was coated with fused silica by Entech Instruments. The following compds.(retention times and ions for quantitation and confirmation)were analyzed: Etridasole 211.00 (100) 183.00 (80) 196.00 (220) Nitrapyrin 196.00 (100) 198 (36) Ethoprop 158.00 (100) 200 (45) 242.00 (28) 192.00 (8) Monocrotophos 127.00 (100) 193.00(30)109.00(12)121.00 (25) Phorate 75.00 (100) 97.0 (24). Dimethoate 87.00 (100) 93.00 (60) 125.00 (40) Metolachlor 162.05 (100) 238.00 (55) Dacthal 300.80 (100) 299.00 (82) Imazamthabenz 256.00 (100) 214.00 (60) Tebuconazole 250.00 (100) 252 (30) 125.00 (190) Propinconazole 173.00 (100) 175 (70) 259.00 (50) Captafol 75.00 (100) 80.00 (35) Phosmet 160.00 (100)161.00(13)133.00(40)104.00(20). Azinphos-Me 160.00 (100) 132.00 (95)125.00 (25) LamdaCyhalothrin181.00 (100) Permethrin 183.00 (100) 162.95 (25) Cyfluthrin 226.00 (100) 227.00 (25) Fenvalerate 419.00 (100) 167.00 (300) 225.00 (150). Under these conditions, the detection limit was less than 1ppb for a 99% confidence level correct identification by retention time and m/z. The substituted Siltex liner was more effective in eliminating formation of active sites that cause injection system losses. In addn., GCMS stability of ion generation and flow stability were found to be crit. to the success of this anal. [on SciFinder (R)]

809. Ma, Weiping , Luan, Feng, Zhang, Haixia, Zhang, Xiaoyun, Liu, Mancang, Hu, Zhide, and Fan, Botao (2006). Quantitative structure-property relationships for pesticides in biopartitioning micellar chromatography. *Journal of Chromatography, A* 1113: 140-147.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:368355
Chemical Abstracts Number: CAN 145:22514
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Simulation and Modeling (phys.; quant. structure-property relationships for pesticides in biopartitioning micellar chromatog.); Micellar liquid chromatography; Pesticides; QSPR (quant. structure-property relationships for pesticides in biopartitioning micellar chromatog.)
CAS Registry Numbers: 13360-45-7 Role: ANT (Analyte), PRP (Properties), ANST (Analytical study) (chlorbromuron; quant. structure-property relationships for pesticides in biopartitioning micellar chromatog.); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-54-8 (DDD); 72-55-9 (DDE); 87-61-6 (1,2,3-Trichlorobenzene); 93-65-2 (MCPP); 93-72-1 (2,4,5-TCPPA); 93-76-5 (2,4,5-T); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 95-50-1 (1,2-Dichlorobenzene); 99-30-9 (Dicloran); 101-10-0 (3-CPPA); 101-42-8 (Fenuron); 106-46-7 (1,4-Dichlorobenzene); 108-70-3 (1,3,5-

Trichlorobenzene); 108-90-7 (Chlorobenzene); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 120-36-5 (2,4-DCPPA); 120-82-1 (1,2,4-Trichlorobenzene); 121-75-5 (Malathion); 122-34-9 (Simazine); 122-88-3 (4-CPA); 150-68-5 (Monuron); 298-00-0 (Parathion-methyl); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 510-15-6 (Chlorbenzylate); 541-73-1 (1,3-Dichlorobenzene); 555-37-3 (Neburon); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 834-12-8 (Ametryne); 841-06-5 (Methoprotryn); 886-50-0 (Terbutryne); 940-31-8 (2-PPA); 950-37-8 (Methidathion); 1014-69-3 (Desmetryn); 1114-71-2 (Pebulate); 1563-66-2 (Carbofuran); 1610-18-0 (Prometon); 1746-81-2 (Monolinuron); 1918-00-9 (DC); 1982-47-4 (Chloroxuron); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2310-17-0 (Phosalone); 2595-54-2 (Mecarbam); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3307-39-9 (4-CPP); 3766-60-7 (Buturon); 4147-51-7 (Dipropetryn); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 7287-19-6 (Prometryn); 15545-48-9 (Chlorotoluron); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18691-97-9 (Methabenzthiazuron); 19937-59-8 (Metoxuron); 21725-46-2 (Cyanazine); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25366-23-8 (Thiazafluron); 29232-93-7 (Pirimiphos-methyl); 34123-59-6 (Isoproturon); 57018-04-9 (Tolclofos-methyl); 82560-54-1 (Benfuracarb); 113158-40-0 (Fenoxaprop-P) Role: ANT (Analyte), PRP (Properties), ANST (Analytical study) (quant. structure-property relationships for pesticides in biopartitioning micellar chromatog.)

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Citations: 2) Hogendoorn, E; J Chromatogr A 2000, 892, 435
Citations: 3) Molero-Monfort, M; J Chromatogr B 2001, 753, 225
Citations: 4) Escuder-Gilabert, L; J Chromatogr B 2003, 797, 21
Citations: 5) Escuder-Gilabert, L; J Chromatogr B 2004, 807, 193
Citations: 6) Quinones-Torrelo, C; J Chromatogr B 2001, 761, 13
Citations: 7) Martinez-Pla, J; J Chromatogr B 2001, 757, 89
Citations: 8) Molero-Monfort, M; J Chromatogr A 2000, 870, 1
Citations: 9) Escuder-Gilabert, L; Anal Chim Acta 2001, 448, 173
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Citations: 11) Bermudez-Saldana, J; J Chromatogr A 2005, 1063, 153
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Citations: 35) Devillers, J; Topological Indices and Related Descriptors in QSAR and QSPR 1999
Citations: 36) Pang, S; Pattern Recognit Lett 2003, 24, 215
Citations: 37) Liu, H; J Chem Inf Comput Sci 2003, 43, 900

Citations: 38) Byvatov, E; J Chem Inf Comput Sci 2003, 43, 1882
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Citations: 42) Liu, H; J Chem Inf Comput Sci 2003, 43, 1288
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Citations: 53) Luan, F; Chemosphere 2005
Citations: 54) Ma, W; J Phys Chem A 2005, 109, 3485
Citations: 55) Vladimir, V; J Chem Inf Comput Sci 2003, 43, 2048
Citations: 56) Luan, F; Anal Chim Acta 2005, 537, 101
Citations: 57) Burges, C; Data Min Knowl Disc 1998, 2, 121
Citations: 58) Wang, W; Neurocomputing 2004, 61, 259
Citations: 59) cholkopf, B; Advances in Kernel Methods--Support Vector Learning 1999
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Citations: 61) Anon; http://www.kernel-machines.org
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Citations: 64) Dyekjar, J; Ind Eng Chem Res 2003, 42, 4241
Citations: 65) Stanton, D; Anal Chem 1990, 62, 2323
Citations: 66) Wilson, L; J Med Chem 1991, 34, 1668
Citations: 67) Abraham, M; J Chromatogr 1991, 587, 213 The retention factor (log k) in the biopartitioning micellar chromatog. (BMC) of 79 heterogeneous pesticides was studied by quant. structure-property relationships (QSPR) method. Heuristic method (HM) and support vector machine (SVM) method were used to build linear and nonlinear models, resp. Compared the results of these two methods, those obtained by the SVM model are much better. For the test set, a predictive correlation coeff. (R) of 0.9755 and root-mean-square (RMS) error of 0.1403 were obtained. The proposed QSPR models, both by HM and SVM, contain the same descriptors that agree with the classical Abraham parameters of well-known linear solvation energy relationships (LSER). [on SciFinder (R)] 0021-9673 pesticide/ QSPR/ micellar/ chromatog

810. Mackenzie, A. B., Scott, R. D., Mckinley, I. G., and West, J. M. (Study of Long Term (10 Exp 3 -10 Exp 4 Y) Elemental Migration in Saturated Clays and Sediments. *Govt reports announcements & index (gra&i), issue 13, 1985*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

ABSTRACT: TD3: A 5m sediment core from L. Lomond, in which a well defined band of marine sediment resulting from the Flandrian marine transgression is present, was extensively analysed by INAA, XRF and alpha -spectrometric techniques. Approximately 10 exp 3 concentration data points for elements including Na, K, As, Br, I, La, Sm, Sc, Cr, Fe, Co, Rb, Sb, Cs, Ce, Eu, Tb, Lu, Hf, Ta, U, Th and Ra are presented. From this large data set, some generalisations on the geochemistry of particular groups of elements (on a periodic table classification) are obtained. In addition, sorption data for Cs, Sr, Ce, Co, I, Tc and Np onto bulk samples of lacustrine and marine sediment were measured and analysed in terms of the expected speciation of these elements under experimental conditions. Using simple models of element remobilisation by diffusive and advective processes it is shown that the elemental profiles observed in-situ are not readily explained by variations in measured sorption. Of particular relevance is the appa

KEYWORDS: Sediments
KEYWORDS: Foreign technology
KEYWORDS: Water pollution detection

811. MacNeil, James D. and Hikichi, Mitsuru (1986). Phosmet residues in an orchard and adjacent recreational area. *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes* B21: 375-85.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1986:604740
Chemical Abstracts Number: CAN 105:204740
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Soil pollution (by phosmet residues); Orchard (phosmet residues in); Irrigation (sprinkling, phosmet residues in orchards redn. by)
CAS Registry Numbers: 732-11-6 Role: BIOL (Biological study) (residues, in orchards and adjacent recreation area) Two cover sprays of phosmet [732-11-6] (1.68 kg/ha) were applied to an orchard adjoining a camping area and a bird sanctuary with a resident goose population. Insecticide residues were monitored on orchard leaves, orchard ground cover, ground cover in the camp-site and along the adjacent lakeshore. Despite attempts to minimize drift, significant spray residues were found outside the target area. Residues on ground cover and leaves were reduced by sprinkler irrigation subsequent to spray application. [on SciFinder (R)] 0360-1234 phosmet/ residue/ orchard

812. Maddy, K. T. (Current Considerations on the Relative Importance of Conducting Additional Studies on Hazards of Field Worker Exposure to Pesticide Residues as Compared to Studying Other Occupational Safety Hazards on the Farm. *In: pesticide residue hazards to farm workers, niosh 76-191 p. 125-142 1976 (5 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: PESTAB. Surveys of farm safety, although often poorly conducted, show that there is a larger incidence of occupational injuries than occupational diseases. In California during 1973 to 1975, there were no pesticide deaths. The testing of pesticide dangers and the experience in the use of various safety regulations has allowed California to enact a Pesticide Safety Regulation Code. This cose delineates precautions, reentry times, and other health regulations with regards to pesticides and their use. The only residue poisoning case occurred in 1973, and resulted from the repeated exposure to numerous pesticide residues (ethion, Imidan (phosmet), phosalone, and dialifor) that were all well below the legal limits. Reentry times should be continually examined and changed as necessary. The control of pesticides before application is also examined, with the use of closed mixing systems suggested. The study of farm safety still needs accurate data for the continued assessment of the contamination problem.

813. Maddy, K. T., Edmiston, S., and Richmond, D. (1990). Illness Injuries and Deaths From Pesticide Exposures in California Usa 1949-1988. *Ware, g. W. (Ed.). Reviews of environmental contamination and toxicology, vol. 114. Ix+171p. Springer-verlag new york inc.: New york, new york, usa* Berlin, west germany. Illus. Isbn 0-387-97207-2; isbn 3-540-97207-2.; 0: 57-124.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW HUMAN OCCUPATIONAL EXPOSURE
MESH HEADINGS: HUMAN

MESH HEADINGS: SOCIAL BEHAVIOR
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: NECROSIS/PATHOLOGY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: PUBLIC HEALTH ADMINISTRATION
MESH HEADINGS: STATISTICS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: MORBIDITY
MESH HEADINGS: NEOPLASMS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Social Biology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Pathology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health-Public Health Administration and Statistics
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Public Health: Epidemiology-Organic Diseases and Neoplasms
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

814. Maestre, Fernando T., Huesca, Mayte, Zaady, Eli, Bautista, Susana, and Cortina, Jordi (2002). Infiltration, penetration resistance and microphytic crust composition in contrasted microsites within a Mediterranean semi-arid steppe. *Soil Biology and Biochemistry* 34: 895-898.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

In semi-arid areas with sparse vegetation cover, runoff generated in the open areas is crucial for the maintenance of vegetated patches. Microphytic crusts play a major role in this redistribution of water, thus influencing ecosystem functioning and dynamics. We investigated the effects of alpha grass (Stipa tenacissima L.) on the composition of the microphytic crusts, surface soil compaction, and infiltration in a semi-arid steppe of SE Spain. The microphytic crust composition differed between the upslope of S. tenacissima tussocks (tussock microsites) and the inter-tussock areas with sparse vascular plant cover (open microsites), with more moss cover in the tussock microsite, and more cyanobacteria and lichens in the open microsite. The surface soil compaction was higher in the open microsite. Variables related with infiltration showed a clear microsite effect, with higher infiltration rate and less time required by first drop to percolate in the tussock microsite. Partial correlation analysis showed a significant negative relationship between the cyanobacteria cover and the infiltration rate, and both the cyanobacteria cover and the percentage of bare soil showed a significant positive relationship with the time required for first drop to percolate. Our results reinforce the idea that open microsites act as sources of water for S. tenacissima tussocks. This study helps to understand the interactions between microphytic crusts and vascular plants in semi-arid environments. Infiltration/ Microphytic crusts/ Microsite/ Surface soil compaction/ Semi-arid steppe/ Stipa tenacissima http://www.sciencedirect.com/science/article/B6TC7-45572F8-1/2/0236b5c41cfe44e17ba7715d2e5e537e

815. Mahajna, M., Quistad, G. B., and Casida, J. E. (1996). S-Methylation of O,O-Dialkyl Phosphorodithioic Acids: O,O,S-Trimethyl Phosphorodithioate and Phosphorothiolate as Metabolites of Dimethoate in Mice. *Chem.Res.Toxicol.* 9: 1202-1206.
Chem Codes: Chemical of Concern: DMT,PSM Rejection Code: METABOLISM.

816. Malik, Y. S., Randall, G. W., and Goyal, S. M. (Fate of Salmonella Following Application of Swine Manure to Tile-Drained Clay Loam Soil. *J water health. 2004, jun; 2(2):97-101. [Journal of water and health]: J Water Health*.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: Land application of animal manure is an important means of utilization of nitrogen and phosphorus. However, the presence of pathogens in manure and their occasional leaching into subsurface water has become a topic of concern during the past few years. This study was undertaken to determine the extent to which Salmonella anatum may leach through tile-drained clay loam soil on which swine manure has been applied. For this purpose, swine manure was experimentally contaminated with S. anatum and applied to three tile-drained plots in winter of 2001 while another three plots served as negative controls. Following rainfall events in the spring of 2002 the tiles started to flow and leachate samples of subsurface water were collected at various time intervals and tested for S. anatum. Salmonella anatum was not found to leach into the subsurface drainage water indicating that it was either retained in the upper layers of soil or did not survive over winter. The leaching of faecal coliforms and coliphages was also tested. Faecal coliforms and coliphages were detected in the subsurface water from both manure and control plots, indicating the ability of the tile drainage system to transport these organisms to groundwater as the water percolates through the soil. Additional temporal studies over a longer time period are needed to determine the survival and leaching of pathogens and indicators into subsurface water.
MESH HEADINGS: Agriculture
MESH HEADINGS: Animals
MESH HEADINGS: Coliphages
MESH HEADINGS: Environmental Monitoring
MESH HEADINGS: Humans
MESH HEADINGS: Manure/*microbiology
MESH HEADINGS: *Salmonella
MESH HEADINGS: Seasons
MESH HEADINGS: *Soil Microbiology
MESH HEADINGS: Swine
MESH HEADINGS: *Water Microbiology
MESH HEADINGS: Water Movements
LANGUAGE: eng

817. Mallet, Claude and Mallet, Victorin N (1989). Conversion of a conventional packed-column gas chromatograph to accommodate megabore columns. I. Evaluation of the system for organophosphorus pesticides. *Journal of Chromatography* 481: 27-35.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1990:50490
Chemical Abstracts Number: CAN 112:50490
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Chromatography (of organophosphorus pesticides, megabore); Pesticides (phosphorus-contg., detn. of, by gas chromatog., megabore columns for); Chromatographs (columns, packed-column chromatograph conversion to megabore)
CAS Registry Numbers: 52-68-6 (Dipterex); 55-38-9 (Baycid); 56-38-2 (Thiophos); 60-51-5 (Cygon); 62-73-7 (Nogos); 86-50-0 (Guthion); 115-90-2 (Dasanit); 121-75-5 (Mercaptothion); 122-14-5 (Folithion); 298-02-2 (Thimet); 298-04-4 (Disyston); 301-12-2 (Metasystox R); 333-41-5 (Basudin); 732-11-6 (Imidan); 944-22-9 (Dyfonate); 2310-17-0 (Zolone); 2921-88-2 (Dursban); 3383-96-8 (Abate); 4901-42-2 (Bis-fenitrothion); 10265-92-6 (Monitor); 22248-79-9; 30560-19-1

(Orthene); 55098-00-5 (S-Methyl-bis-fenitrothion) Role: ANT (Analyte), ANST (Analytical study) (detn. of, by gas chromatog., megabore columns in) A conventional packed-column chromatograph was modified for use with a megabore column using a com. conversion kit, with the intention of developing a multi-residue method for organophosphorus pesticides. The conversion does not affect the resolving power of the megabore column, since 14 organophosphorus pesticides could be sepd. in a single injection. The megabore column in such a system proved to much more efficient than a packed column in terms of resoln. and qual. reproducibility, and comparable with a similar column in a dedicated chromatograph. However, the conversion did affect the quant. reproducibility of the system to some degree, as indicated by coeffs. of variation between 5 and 27%, although it was detd. that the particular nitrogen-phosphorus detector system (filament bead) used was partly responsible for the variation. Nevertheless, calibration curves were obtained down to 0.1 ng per component, and a limit of quantitation of 1.0 ng was established for each component in a sample contg. 14 organophosphorus compds. The retention times varied from 0.9 min (dichlorvos) to 24.3 min (phosmet) and limits of detection varied between 0.01 and 0.08. Thus, the system is sufficiently reproducible to develop a multi-residue method for organophosphorus pesticides in environmental waters. [on SciFinder (R)] 0021-9673 organophosphorus/ pesticide/ gas/ chromatog/ megabore/ column

818. Mallet, Claude and Mallet, Victorin N (1989). Conversion of a conventional packed-column gas chromatograph to accommodate megabore columns. II. Determination of organophosphorus pesticides in environmental water. *Journal of Chromatography* 481: 37-44.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1990:11702
Chemical Abstracts Number: CAN 112:11702
Section Code: 61-3
Section Title: Water
Document Type: Journal
Language: written in English.
Index Terms: Extraction (of phosphorus-contg. pesticides, detn. in water by GC using megabore columns in relation to); Solvents (org., phosphorus-contg. pesticides extn. by, detn. in water by GC using megabore columns in relation to); Chromatography (pesticides detn. by, in water, megabore columns in relation to); Pesticides (phosphorus-contg., detn. of, in environmental water, by gas chromatog., megabore columns in relation to)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-38-2 (Ethyl-parathion); 60-51-5 (Dimethoate); 115-90-2 (Fensulfothion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 10265-92-6 (Methamidophos); 22248-79-9 (Tetrachlorvinphos); 30560-19-1 (Acephate) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in environmental water, by gas chromatog., megabore columns in relation to); 7732-18-5 Role: AMX (Analytical matrix), ANST (Analytical study) (extraction, of phosphorus-contg. pesticides, detn. in water by GC using megabore columns in relation to); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (pesticides detn. in, by gas chromatog., megabore columns in relation to); 75-09-2; 110-54-3 (Hexane); 141-78-6 (Acetic acid ethyl ester) Role: BIOL (Biological study) (phosphorus-contg. pesticides extn. by, detn. in water by GC using megabore columns in relation to); 37380-42-0 (Amberlite XAD 4); 37380-43-1 (Amberlite XAD 7) Role: OCCU (Occurrence) (phosphorus-contg. pesticides extn. by, detn. in water by GC using megabore columns in relation to) Several methods involving solvent extn. or solid extn. (Amberlite XAD resins) were studied for the multiresidue recovery of fourteen organophosphorus compds. in water. Extn. with Et acetate in a salted medium provided the most consistent data, both in terms of no. of compds. recovered and percentage recovery. Amberlite XAD resins gave consistently high recoveries, and this was attributed to a matrix effect upon the particular nitrogen-phosphorus detector. The evaluation was made using a megabore column installed in a conventional packed-column

chromatograph, and the results show that such a system is amenable to the multiresidue anal. of organophosphorus pesticides at very low cost. [on SciFinder (R)] 0021-9673 pesticide/ detn/ water/ gas/ chromatog

819. Mallet, V. and Frei, Roland W (1971). Investigation of flavones as fluorogenic spray reagents for organic compounds on a cellulose matrix. II. Detection of pesticides. *Journal of Chromatography* 56: 69-77.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1971:123973
Chemical Abstracts Number: CAN 74:123973
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detection of, by fluorogenic method); Plant hormones Role: ANT (Analyte), ANST (Analytical study) (detection of, by fluorogenic method)
CAS Registry Numbers: 50-29-3; 50-31-7; 56-38-2; 58-89-9; 60-57-1; 61-82-5; 63-25-2; 72-20-8; 72-54-8; 72-55-9; 76-44-8; 78-57-9; 86-29-3; 86-86-2; 88-85-7; 93-72-1; 93-76-5; 94-75-7; 94-82-6; 101-05-3; 101-21-3; 101-27-9; 114-26-1; 115-93-5; 116-29-0; 118-75-2; 120-62-7; 121-75-5; 122-34-9; 122-42-9; 133-90-4; 139-40-2; 314-42-1; 315-18-4; 330-54-1; 485-31-4; 492-86-4; 563-12-2; 732-11-6; 834-12-8; 944-22-9; 953-17-3; 1194-65-6; 1582-09-8; 1610-18-0; 1689-83-4; 1698-60-8; 1861-32-1; 1861-40-1; 1897-45-6; 1912-24-9; 1912-26-1; 1918-00-9; 1918-18-9; 2032-59-9; 2307-49-5; 2439-01-2; 2631-68-7; 2686-99-9; 3653-48-3; 3692-20-4; 3878-19-1; 5135-80-8; 7287-19-6; 10367-97-2; 23103-98-2; 23950-58-5 Role: ANT (Analyte), ANST (Analytical study) (detection of, by fluorogenic method); 2282-34-0 Role: BIOL (Biological study) (mixt. with m-(1-ethylpropyl)phenyl methylcarbamate, detection of, by fluorogenic method); 672-04-8 Role: BIOL (Biological study) (mixt. with m-(1-methylbutyl)phenyl methylcarbamate, detection of, by fluorogenic method); 528-48-3 Role: BIOL (Biological study) (pesticide detection by fluorogenic spray of) Several classes of pesticides such as carbamates, s-triazines, organophosphates and chlorinated hydrocarbons were tested. Yellow fluorescent spots were obsd. on cellulose layers sprayed with fisetin. The visual detection limits obtained for these compds. with this new fluorogenic method range between 0.01 to 0.1 mg. The method was also extended to herbicides and fungicides of a variety of chem. structures and conclusions were drawn as to the type of fluorescence phenomenon obsd. Some functional groups such as nitro and possibly amino, and mols. with a quinoid type of structure quenched the fluorescence of the spray reagent; while others, such as carboxylic, cyano and methoxy groups, did not. [on SciFinder (R)] 0021-9673 pesticide/ detection/ fluorogenic/ method;/ insecticide/ detection/ fluorogenic/ method;/ herbicide/ detection/ fluorogenic/ method;/ fisetin/ fluorogenic/ spray;/ flavone/ fluorogenic/ spray/ pesticide/ detection

820. Mallet, Victorin N., Duguay, Monique, Bernier, Marc, and Trottier, Natalie (1990). An evaluation of high performance liquid chromatography-UV for the multi-residue analysis of organophosphorous pesticides in environmental water. *International Journal of Environmental Analytical Chemistry* 39: 271-9.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1990:464936
Chemical Abstracts Number: CAN 113:64936
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80

Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus, detn. of, in water, HPLC and UV detection in)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-72-4 (Coumaphos); 86-50-0 (Azinphosmethyl); 115-90-2 (Fensulfothion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 299-84-3 (Fenchlorphos); 299-85-4 (Zytron); 299-86-5 (Crufomate); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 2463-84-5 (Dicapthon); 3383-96-8 (Temephos); 4104-14-7 (Gophacide) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in water, HPLC and UV detection in); 7732-18-5 (Water) Role: ANST (Analytical study) (organophosphorus pesticide detn. in environmental, HPLC and UV detection in) Isocratic HPLC in the reversed-phase mode (RP-8 or RP-18 column) with UV detection (254 nm), was evaluated for the detn., directly or after extn., of organophosphorus pesticides in environmental water. Fifteen pesticides were studied, and good resoln. was obtained for 8 by direct anal. of a multiresidue water sample. Reproducibility in terms of retention times was very good. Linear calibration curves were obtained at ?0.5 ng/mL (3 ng injected), with a coeff. of variation near 10%. The limit of quantitation for direct anal. was 0.5 mg/L (3 ng) in water. However, by extn. with CH2Cl2 or EtOAc and concn. of the ext., some of the pesticides could be detd. at 0.5 mg/L (ppb) in water. [on SciFinder (R)] 0306-7319 organophosphorus/ pesticide/ detn/ water/ HPLC

821. Malone, R. W., Logsdon, S., Shipitalo, M. J., Weatherington-Rice, J., Ahuja, L., and Ma, L. (2003). Tillage effect on macroporosity and herbicide transport in percolate: Quantifying agricultural management effects on soil properties and processes. *Geoderma* 116: 191-215.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Research suggests that pesticide transport to tile drains and shallow groundwater may be greater for no-till than tilled soil. Also, most pesticide transport through soil can be from macropore flow, but the effect of tillage on macropore transport is uncertain. Our objective was to investigate the effect of tillage on herbicide leaching through hydraulically active macropores. The number of percolate-producing macropores at 30 cm (nmacro) and the timing of initial percolate were measured from an experiment where atrazine, alachlor and rainfall were applied to moldboard plowed (MP) and no-till (NT) undisturbed soil blocks from two different silt loam soils. Alachlor and atrazine transport through the undisturbed soil blocks was simulated using the Root Zone Water Quality Model (RZWQM). The time of initial percolate breakthrough at 30 cm was significantly less for NT than for MP ($p<0.001$), but nmacro was not significantly different between MP and NT treatments. Additionally, nmacro was significantly different between the two silt loam soils ($p<0.001$). Multiple linear regression revealed that flow-weighted herbicide concentration in percolate decreased with increasing nmacro (cm-2) and increasing time for initial percolate breakthrough (min) (R2=0.87 for alachlor and 0.85 for atrazine). Because a small fraction of nmacro produces the majority of percolate, we used half of measured nmacro for RZWQM input. Also, soil parameters were calibrated to accurately simulate the water flow component timing of percolate arrival and percolate amount through macropores. This parameterization strategy resulted in accurate predicted herbicide concentrations in percolate at 30 cm using RZWQM (within the range of observations). The modeling results suggest that differences in soil properties other than macroporosity such as a lower soil matrix saturated hydraulic conductivity and porosity in subsurface soil (8-30 cm) can cause percolate to occur sooner through macropores on NT than on MP and cause higher herbicide concentrations in percolate on NT, even when nmacro does not differ between till and no-till. Preferential flow/ RZWQM/ Contaminant transport/ Model validation/ Macropores
http://www.sciencedirect.com/science/article/B6V67-488Y6PD-2/2/8512d6de1a85f08b37472db1ca7cd009

822. Malone, R. W., Ma, L., Wauchope, R. D., Ahuja, L. R., Rojas, K. W., Ma, Q., Warner, R., and Byers, M. (Modeling Hydrology, Metribuzin Degradation and Metribuzin Transport in Macroporous Tilled and No-Till Silt Loam Soil Using Rzwqm. *Pest manag sci. 2004, mar; 60(3):253-66. [Pest management science]: Pest Manag Sci.*
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: Due to the complex nature of pesticide transport, process-based models can be difficult to use. For example, pesticide transport can be effected by macropore flow, and can be further complicated by sorption, desorption and degradation occurring at different rates in different soil compartments. We have used the Root Zone Water Quality Model (RZWQM) to investigate these phenomena with field data that included two management conditions (till and no-till) and metribuzin concentrations in percolate, runoff and soil. Metribuzin degradation and transport were simulated using three pesticide sorption models available in RZWQM: (a) instantaneous equilibrium-only (EO); (b) equilibrium-kinetic (EK, includes sites with slow desorption and no degradation); (c) equilibrium-bound (EB, includes irreversibly bound sites with relatively slow degradation). Site-specific RZWQM input included water retention curves from four soil depths, saturated hydraulic conductivity from four soil depths and the metribuzin partition coefficient. The calibrated parameters were macropore radius, surface crust saturated hydraulic conductivity, kinetic parameters, irreversible binding parameters and metribuzin half-life. The results indicate that (1) simulated metribuzin persistence was more accurate using the EK (root mean square error, RMSE = 0.03 kg ha(-1)) and EB (RMSE = 0.03 kg ha(-1)) sorption models compared to the EO (RMSE = 0.08 kg ha(-1)) model because of slowing metribuzin degradation rate with time and (2) simulating macropore flow resulted in prediction of metribuzin transport in percolate over the simulation period within a factor of two of that observed using all three pesticide sorption models. Moreover, little difference in simulated daily transport was observed between the three pesticide sorption models, except that the EB model substantially under-predicted metribuzin transport in runoff and percolate >30 days after application when transported concentrations were relatively low. This suggests that when macropore flow and hydrology are accurately simulated, metribuzin transport in the field may be adequately simulated using a relatively simple, equilibrium-only pesticide model.
MESH HEADINGS: Agriculture/*methods
MESH HEADINGS: Algorithms
MESH HEADINGS: Calibration/standards
MESH HEADINGS: Kinetics
MESH HEADINGS: *Models, Biological
MESH HEADINGS: Pesticide Residues/chemistry/*metabolism
MESH HEADINGS: Plant Roots/chemistry/metabolism
MESH HEADINGS: Research Design/standards
MESH HEADINGS: Sensitivity and Specificity
MESH HEADINGS: Soil/*analysis
MESH HEADINGS: Triazines/chemistry/*metabolism
MESH HEADINGS: Water/chemistry/*metabolism
LANGUAGE: eng

823. Malone, R. W., Warner, R. C., Workman, S. R., and Byers, M. E. (1999). Modeling Surface and Subsurface Pesticide Transport Under Three Field Conditions Using Przm-3 and Gleams. *Transactions of the American Society of Agricultural Engineers, 42 (5) pp. 1275-1287, 1999*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, MODELING.

ISSN: 0001-2351
Descriptors: Metribuzin
Descriptors: Contaminant transport
Descriptors: Leaching
Descriptors: Runoff
Descriptors: No-till
Descriptors: Compost
Abstract: Contaminant transport models should be evaluated over a wide range of conditions to determine their limitations. The models PRZM and GLEAMS have been evaluated many times, but few studies are available in which predicted movement in runoff and percolate were simultaneously evaluated against field data. Studies of this type are essential because pesticide leaching and runoff are mutually dependent processes. For this reason, PRZM-3 and GLEAMS

were evaluated for their ability to predict metribuzin concentrations in runoff, sediment, subsurface soil, and pan lysimeters under three field conditions (yard waste compost amended, no-till, and conventional-till) on a Lowell silt loam soil. Sensitive input parameters were either site specific (climatic, soil, and chemical) or calibrated (K-factor, C-factor, curve number). In general, both models under-predicted metribuzin concentration in runoff water, runoff sediment, subplow layer soil (15-75 cm), and pan lysimeter water (75 cm). Contrary to field data, both models predicted that a large percentage (greater than 50%) of metribuzin would move below the 'mixing zone' (top 1 cm) during the first rainfall event after application. Relatively little metribuzin was predicted to move beyond the plow layer (top 15 cm) into the pan lysimeters or subsurface soil throughout the simulation period, possibly due to the lack of a macropore component in the models. High metribuzin concentrations in sediment (field data) indicated that relatively little metribuzin moved below the 'mixing zone', possibly because of hysteresis but much of the metribuzin that did move was quickly transported into the pan lysimeters, probably due to macropore flow. GLEAMS more accurately predicted pesticide concentration in sediment and PRZM predicted subsurface soil concentration somewhat more accurately than GLEAMS. Little difference in accuracy was detected between models on metribuzin concentration in runoff or metribuzin concentration in percolate. Although both models generally under-predicted metribuzin concentration in runoff, runoff transport (mass of metribuzin in runoff) for the study period was over-predicted by both models which emphasizes the importance of accurately predicting herbicide concentration and runoff volume soon after application when the surface pesticide concentrations are highest.
51 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.10.4 CROP SCIENCE: Crop Protection
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science
Subfile: Plant Science

824. Malone, R. W., Weatherington-Rice, J., Shipitalo, M. J., Fausey, N., Ma, L., Ahuja, L. R., Wauchope, R. D., and Ma, Q. (Herbicide Leaching as Affected by Macropore Flow and Within-Storm Rainfall Intensity Variation: a Rzwqm Simulation. *Pest manag sci. 2004, mar; 60(3):277-85. [Pest management science]: Pest Manag Sci.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Within-event variability in rainfall intensity may affect pesticide leaching rates in soil, but most laboratory studies of pesticide leaching use a rainfall simulator operating at constant rainfall intensity, or cover the soil with ponded water. This is especially true in experiments where macropores are present--macroporous soils present experimental complexities enough without the added complexity of variable rainfall intensity. One way to get around this difficulty is to use a suitable pesticide transport model, calibrate it to describe accurately a fixed-intensity experiment, and then explore the affects of within-event rainfall intensity variation on pesticide leaching through macropores. We used the Root Zone Water Quality Model (RZWQM) to investigate the effect of variable rainfall intensity on alachlor and atrazine transport through macropores. Data were used from an experiment in which atrazine and alachlor were surface-applied to 30 x 30 x 30 cm undisturbed blocks of two macroporous silt loam soils from glacial till regions. One hour later the blocks were subjected to 30-mm simulated rain with constant intensity for 0.5 h. Percolate was collected and analyzed from 64 square cells at the base of the blocks. RZWQM was calibrated to describe accurately the atrazine and alachlor leaching data, and then a median Mid-west variable-intensity storm, in which the initial intensity was high, was simulated. The variable-intensity storm more than quadrupled alachlor losses and almost doubled atrazine losses in one soil over the constant-intensity storm of the same total depth. Also rainfall intensity may affect percolate-producing macroporosity and consequently pesticide transport through macropores. For example, under variable rainfall intensity RZWQM predicted the alachlor concentration to be 2.7 microg

ml(-1) with an effective macroporosity of 2.2 E(-4) cm(3) cm(-3) and 1.4 microg ml(-1) with an effective macroporosity of 4.6 E(-4) cm(3) cm(-3). Percolate-producing macroporosity and herbicide leaching under different rainfall intensity patterns, however, are not well understood. Clearly, further investigation of rainfall intensity variation on pesticide leaching through macropores is needed.
MESH HEADINGS: Acetamides/chemistry/metabolism
MESH HEADINGS: Atrazine/chemistry/metabolism
MESH HEADINGS: Computer Simulation/standards
MESH HEADINGS: Herbicides/chemistry/*metabolism
MESH HEADINGS: *Models, Biological
MESH HEADINGS: Pesticide Residues/chemistry/*metabolism
MESH HEADINGS: Porosity
MESH HEADINGS: *Rain
MESH HEADINGS: Soil/*analysis
MESH HEADINGS: Water/chemistry/*metabolism
MESH HEADINGS: Water Movements
LANGUAGE: eng

825. Malvankar, R. B. and Pansare, V. S (1986). Simultaneous spectrophotometric microdetermination of sulfur and phosphorus in organic compounds. *Microchemical Journal* 33: 359-63.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1986:507693
Chemical Abstracts Number: CAN 105:107693
Section Code: 80-6
Section Title: Organic Analytical Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (phosphorus and sulfur detn. in, by spectrophotometry)
CAS Registry Numbers: 7704-34-9 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in org. compds. contg. phosphorus by spectrophotometry); 7723-14-0 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in org. compds. in presence of sulfur by spectrophotometry); 13435-46-6 Role: ANST (Analytical study) (in detn. of sulfur in presence of phosphorus by spectrophotometry); 115-86-6 Role: ANST (Analytical study) (phosphorus and sulfur detn. in mixt. contg. di-Ph disulfide and, by spectrophotometry); 603-35-0 Role: ANST (Analytical study) (phosphorus and sulfur detn. in mixt. contg. phenylthiourea and, by spectrophotometry); 882-33-7 Role: ANST (Analytical study) (phosphorus and sulfur detn. in mixt. contg. tri-Ph phosphate and, by spectrophotometry); 103-85-5 Role: ANST (Analytical study) (phosphorus and sulfur detn. in mixt. contg. triphenylphosphine and, by spectrophotometry); 60-51-5; 78-57-9; 563-12-2; 732-11-6; 2310-17-0 Role: ANST (Analytical study) (phosphorus and sulfur simultaneous detn. in, by spectrophotometry); 7723-14-0D Role: AMX (Analytical matrix), ANST (Analytical study) (phosphorus detn. in, in presence of sulfur by spectrophotometry); 7704-34-9D Role: AMX (Analytical matrix), ANST (Analytical study) (sulfur detn. in, in presence of phosphorus by spectrophotometry) A method is described for the spectrophotometric microdetn. of S and P in org. compds. The interference of P in the detn. of S is avoided by using a suitably modified Ba chloranilate method. P is detd. as molybdovanadophosphate. The samples analyzed include some pesticides and mixts. of organosulfur and organophosphorus compds. The error does not exceed +-0.5% unlike the one reported in the earlier method (Bishara, S. W., and El-Samman, F. M., 1982). [on SciFinder (R)] 0026-265X sulfur/ detn/ phosphorus/ present/ spectrophotometry;/ pesticide/ analysis/ phosphorus/ sulfur;/ organosulfur/ organophosphorus/ mixt/ analysis

826. Manchester, S. R. and Hickey, L. J. (2007). Reproductive and Vegetative Organs of Browniea Gen. N. (Nyssaceae) From the Paleocene of North America. *International Journal of Plant Sciences, 168*

(2) pp. 229-249, 2007.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 1058-5893
Descriptors: Cornales
Descriptors: Nyssaceae
Descriptors: Camptotheca
Descriptors: Amersinia
Descriptors: Paleocene
Descriptors: North America fossils
Descriptors: Leaves
Descriptors: Infructescences
Descriptors: Fruits
Descriptors: Pollen
Abstract: We recognize a new genus of Nyssaceae on the basis of abundant foliage and reproductive remains from the Paleocene of North America. Browniea gen. n. is known from leaves, inflorescences, and fruits co-occurring in at least 30 sites in Wyoming, Montana, North and South Dakota, Saskatchewan, and Alberta, ranging from Maastrichtian to uppermost Clarkforkian. The simple, serrate leaves of Browniea serrata (Newberry) comb. n. were previously referred to such diverse genera as Alnus, Amelancier, Celastrus, Eucommia, Tapiscia, and Viburnum. Inflorescences and infructescences are globose heads borne on long, slender peduncles. Each fruiting head bears numerous elongate fruits with five persistent epigynous sepals and a single style with two stigmatic arms. The stamens have globose anthers with normal slitlike dehiscence and contain prolate tricolporate pollen with microreticulate ornamentation. Although the infructescences and fruits resemble those of extant Camptotheca, Browniea is distinguished by distinct calyx lobes, more elongate germination valves, normally dehiscing anthers, smaller pollen, and leaves that are consistently serrate. These fossils, together with those of Amersinia, Cornus, and Davidia, indicate that the Cornales were an important component of midlatitude North American Paleocene vegetation. (copyright) 2007 by The University of Chicago. All rights reserved.
43 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.14.3 DIVERSITY: Palaeobotany
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

827. Mangiafico, S. S. and Guillard, K. (2007). Nitrate Leaching From Kentucky Bluegrass Soil Columns Predicted With Anion Exchange Membranes. *Soil Science Society of America Journal, 71 (1) pp. 219-224, 2007*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0361-5995
Abstract: Ideal nitrogen (N) management for turfgrass supplies sufficient N for high-quality turf without increasing N leaching losses. A greenhouse study was conducted during two 27-wk periods to determine if in situ anion exchange membranes (AEMs) could predict nitrate (NO<inf>3</inf>-N) leaching from a Kentucky bluegrass (Poa pratensis L.) turf grown on intact soil columns. Treatments consisted of 16 rates of N fertilization, from 0 to 98 kg N ha ⁻¹ mo⁻¹. Percolate water was collected weekly and analyzed for NO<inf>3</inf>-N. Mean flow-weighted NO<inf>3</inf>-N concentration and cumulative mass in percolate were exponentially related (pseudo-R² = 0.995 and 0.994, respectively)

to AEM desorbed soil NO<inf>3</inf>-N, with a percolate concentration below 10 mg NO<inf>3</inf>-N L⁻¹ corresponding to an AEM soil NO<inf>3</inf>-N value of 2.9 (mu)g cm⁻² d⁻¹. Apparent N recovery by turf ranged from 28 to 40% of applied N, with a maximum corresponding to 4.7 (mu)g cm⁻² d⁻¹ AEM soil NO<inf>3</inf>-N. Turf color, growth, and chlorophyll index increased with increasing AEM soil NO<inf>3</inf>-N, but these increases occurred at the expense of increases in NO<inf>3</inf>-N leaching losses. These results suggest that AEMs might serve as a tool for predicting NO<inf>3</inf>-N leaching losses from turf. (copyright) Soil Science Society of America.
37 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science
Subfile: Plant Science

828. Marcus, M., Spigarelli, J., and Miller, H (1978). Organic compounds in organophosphorus pesticide manufacturing wastewaters.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1979:528463
Chemical Abstracts Number: CAN 91:128463
Section Code: 60-2
Section Title: Sewage and Wastes
CA Section Cross-References: 5, 79
Document Type: Report
Language: written in English.
Index Terms: Wastewater (from pesticide manufg., compn. of); Herbicides; Insecticides; Pesticides (manuf. of, wastewater from, anal. of); Wastewater treatment (of pesticide industry effluents, efficiency of processes for)
CAS Registry Numbers: 7732-18-5 Role: ANST (Analytical study) (anal. of waste-, from organophosphorus pesticide industry); 86-50-0P; 298-00-0P; 298-04-4P; 333-41-5P; 732-11-6P; 741-58-2P; 944-22-9P; 2104-64-5P Role: IMF (Industrial manufacture), PREP (Preparation) (manuf. of, wastewater from, anal. of) Preliminary survey information on organophosphorus pesticide industry wastewater streams and anal. methods to monitor levels of org. compds. present in these streams are presented. The identification and quantification of organophosphorus compds. was emphasized, but nonphosphorus chemicals were also included in the survey. A secondary goal of the program was to use the survey information to evaluate the efficiency of various waste treatment processes. The wastewater from 5 pesticide plants that produced 8 organophosphorus pesticides was sampled. The pesticides were diazinon [333-41-5], methyl parathion [298-00-0], azinphos methyl [86-50-0], disulfoton [298-04-4], fonofos [944-22-9], phosmet [732-11-6], bensulide [741-58-2], and EPN [2104-64-5]. The 116 compds. identified included organophosphorus pesticides, related organophosphorus esters, organophosphorus acids, volatile org. compds., thiocarbamate pesticides, triazine herbicides, and misc. extractable process chemicals, by-products, and compds. of unknown origin. [on SciFinder (R)] organophosphorus/ pesticide/ manuf/ wastewater/ analysis;/ phosphorus/ organo/ pesticide/ wastewater/ analysis

829. Marfa(grave), O., Lemaire, F., Ca(acute)ceres, R., Giuffrida, F., and Gue(acute)rin, V. (2002). Relationships Between Growing Media Fertility, Percolate Composition and Fertigation Strategy in Peat-Substitute Substrates Used for Growing Ornamental Shrubs. *Scientia Horticulturae, 94 (3-4) pp. 309-321, 2002*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: SURVEY.

ISSN: 0304-4238
Descriptors: Organic by-products
Descriptors: Induced percolate method
Descriptors: Substrates biostability
Descriptors: Substrates fertility
Descriptors: Fertigation
Descriptors: Container crops
Descriptors: Viburnum tinus
Descriptors: Euonymus japonicus
Descriptors: Nerium oleander
Abstract: The composition of root-zone solution of container grown Viburnum tinus L. 'Eve Price', Nerium oleander L. 'E(acute)mile Shaut' and Euonymus japonicus Thunb. were studied in two different localities (France and Spain). The growing media assayed were binary mixtures prepared with Finnish sphagnum peat, the following peat-substitutes: cattle manure compost, forest waste compost, pine bark compost, yard compost and raw coir. Perlite was used as inorganic amendment in one mixture. The composition of the root-zone solution was monitored by the induced percolate (IP) method and the applied nutrient solution (NS) was modulated by dilution in the experiments carried out in the French location or by increasing the volume applied to manage the electrical conductivity in the experiments conducted in the Spanish location. Modulation of the NS-water ratio resulted in a linear relation of percolate composition to NS composition. That relation was not present when the NS was not diluted. The results indicate that a steady-state nutrient level in the root zone can be achieved when a modulated and relatively low concentration of NS is applied by fertigation. Release of nutrients, especially nitrates, occurs during growing period. The biostability of the substrates and the initial availability of phosphorus and potassium determine the composition of the leachates. The results proved that the IP method can be used to monitor nutrient levels in the root zone and its use can enhance the nutrient-use efficiency in commercial nurseries. (copyright) 2002 Elsevier Science B.V. All rights reserved.
43 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.10.1.5 CROP SCIENCE: Crop Physiology: Fertilizer effects
Classification: 92.10.2.6 CROP SCIENCE: Agronomy and Horticulture: Ornamentals
Subfile: Plant Science

830. Marin, Carlos, Galindo-Zaldivar, Jesus, and Rodriguez-Fernandez, Luis Roberto (2003). Joints, faults and palaeostress evolution in the Campo de Dalias (Betic Cordilleras, southeastern Spain). *Comptes Rendus Geosciences* 335: 255-264.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: NO TOX DATA.

The Campo de Dalias, located between the central and eastern Betic Cordilleras, shows an evolution determined by the overprinting of two main stress fields since Pliocene times. The first of these develops hybrid and tensional joint sets up to Pleistocene (100 000 yr) and is characterized by NNW-SSE horizontal trend of compression and an ENE-WSW horizontal extension. The second stress field has prolate to triaxial extensional ellipsoids, also with ENE-WSW horizontal extension, and continues to be active today. The most recent stresses produce the reactivation of previous joints as faults whose trends are comprised mainly from N120[degree sign]E to N170[degree sign]E and have a normal and transtensional regime, with dextral or sinistral components. The palaeostress evolution of this region is similar to that undergone by other basins of the Eastern Betic Cordilleras, although the Pliocene-Pleistocene transcurrent deformations in the Campo de Dalias only develop joints and not strike-slip faults. Faulted joints/ Palaeostress/ Plio-Quaternary/ Campo de Dalias/ Betic Cordillera/ Spain/ Diaclases faillees/ Paleocontraintes/ Plio-Quaternaire/ Campo de Dalias/ Cordilleres betiques/ Espagne

http://www.sciencedirect.com/science/article/B6X1D-487DH8T-C/2/24ae791eba31178b1e52fa1d6ae6ca10

831. Markewitz, K., Cabral, A. R., Panarotto, C. T., and Lefebvre, G. (Anaerobic Biodegradation of an Organic by-Products Leachate by Interaction With Different Mine Tailings. *J hazard mater. 2004, jul 5; 110(1-3):93-104. [Journal of hazardous materials]: J Hazard Mater*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, BACTERIA.

ABSTRACT: Deinking by-products from paper recycling have been used as cover materials on acid-producing tailings. Due to residual cellulose, anaerobic degradation leads to the production of an organic-rich leachate, which may percolate through the tailings. This study aims at describing the influence of the tailings' characteristics on the attenuation of organic matter in leachate and at discussing the degradation mechanisms. To this end, leachate was mixed with different types of tailings, including three unoxidized tailings with varying acid generation potentials and one tailing in three states of oxidation. Regularly, selected biochemical parameters were analyzed to access the evolution of organic components. The results show that when leachate from deinking by-products was placed in contact with tailings, phase and acid-base balance reactions took place in the beginning. Subsequently, oxidation-reduction reactions dominated the chemistry of the system. The type, the constituents, and the state of oxidation of the mine tailings condition the mechanisms of biodegradation of organic components. Methanogenesis was predominant in the control sample (pure organic leachate) but was absent in all leachate-tailings mixtures. No biodegradation was observed in the liquid phase for oxidized tailings and the organic concentration remained constant for unoxidized tailings, independently of the acid-generation potential. The biodegradation efficiency was optimal when the leachate was in contact with a mixture of oxidized and unoxidized tailings due to sulfate-reduction.
MESH HEADINGS: Acids/*metabolism
MESH HEADINGS: Anaerobiosis
MESH HEADINGS: Bacteria, Anaerobic/*metabolism
MESH HEADINGS: Biodegradation, Environmental
MESH HEADINGS: Carbon/chemistry
MESH HEADINGS: Hazardous Waste/*prevention &amp
MESH HEADINGS: control
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Ink
MESH HEADINGS: Methane/metabolism
MESH HEADINGS: *Mining
MESH HEADINGS: Organic Chemicals/*chemistry
MESH HEADINGS: Oxidation-Reduction
MESH HEADINGS: Paper
LANGUAGE: eng

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Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW HUMAN CANCER CARCINOGEN CYTOGENIC EFFECT REPRODUCTIVE SYSTEM PATHOLOGY MORTALITY OCCUPATIONAL HEALTH
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: HUMAN
MESH HEADINGS: NECROSIS/PATHOLOGY
MESH HEADINGS: GENITALIA/PATHOLOGY
MESH HEADINGS: GENITALIA/PHYSIOPATHOLOGY
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING

MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Cytology and Cytochemistry-Human
KEYWORDS: Pathology
KEYWORDS: Reproductive System-Pathology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

833. Marquez, Carolina, Villalobos, Cecilia, Poblete, Susana, Villalobos, Eva, De los Angeles Garcia, Maria, and Duk, Soledad (2005). Cytogenetic damage in female Chilean agricultural workers exposed to mixtures of pesticides. *Environmental and Molecular Mutagenesis* 45: 1-7.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:142013
Chemical Abstracts Number: CAN 143:73056
Section Code: 4-4
Section Title: Toxicology
CA Section Cross-References: 59
Document Type: Journal
Language: written in English.
Index Terms: Aging; Blood; Cytotoxicity; Fungicides; Genotoxicity; Herbicides; Human; Insecticides; Lymphocyte; Occupational health hazard; Pesticides (cytogenetic damage in female agricultural workers exposed to mixts. of pesticides); Cell nucleus (micronucleus; cytogenetic damage in female agricultural workers exposed to mixts. of pesticides)
CAS Registry Numbers: 1317-39-1 (Copper oxide (Cu2O) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (FR; cytogenetic damage in female agricultural workers exposed to mixts. of pesticides); 86-50-0 (Azinfos methyl); 94-74-6 (MCPA); 122-34-9 (Simazin); 133-06-2 (Captan); 330-55-2 (Afalon); 333-41-5 (Diazinon); 732-11-6 (Imidan); 1563-66-2 (Furadan); 1897-45-6 (Hortyl); 1912-24-9 (Atrazin); 4685-14-7 (Paraquat); 7704-34-9 (Sulfur); 10265-92-6 (Metamidophos); 12427-38-2 (Manzate); 13684-63-4 (Betanal); 17804-35-2 (Benlate); 51630-58-1 (Belmark); 57837-19-1 (Metalaxil); 85206-36-6 (Azomark); 112410-23-8 (Mimic) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (cytogenetic damage in female agricultural workers exposed to mixts. of pesticides)
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Citations: Zuskin, E; Int Arch Environ Health 1993, 64, 521 The VIII Region of Bio-Bio is a major fruit-growing area of Chile that makes intensive use of agricultural pesticides. The cytogenetic damage assocd. with exposure to mixts. of pesticides was evaluated by comparing peripheral blood lymphocyte micronucleus (MN) frequencies in a group of 64 female agricultural workers and 30 female controls. The exposed subjects worked during the spring and summer in thinning and pruning fruit trees and in harvesting and packing different fruits, such as raspberries, grapes, apples, and kiwis. They did not use any protective measures during their work activities. A significant increase in the frequency of binucleated cells with micronuclei (BNMN) was found in the exposed women as compared with the controls (36.94 +- 14.47 vs. 9.93 +- 6.17 BNMN/1000 BN cells; $P < 0.001$). The frequency of BNMN varied as a function of age in both the exposed and control groups, but no correlation was found between BNMN frequency and the duration of exposure. Also, smoking and other habits had no effect on MN frequency. Our study confirms that occupational exposure to pesticide mixts. results in cytogenetic damage. [on SciFinder (R)] 0893-6692 pesticide/ occupational/ exposure/ genotoxicity/ cytotoxicity/ micronucleus

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<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ENVIRONMENTAL TOXICITY ANALYTICAL METHOD MH - BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING

MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Previous studies (Marshall , 1991; Marshall and Mitchell, 1991) have shown that time-of-flight aerodynamic particle sizers, such as the TSI Aerodynamic Particle Sizer and the Amherst Process Instruments Aerosizer, underestimate the aerodynamic size of cubeshaped particles, since they operate under ultra-Stokesian flow conditions. The present work has extended the investigation to include an assessment of the behaviour of two sizes of monodisperse, prolate spheroidal, ferric oxide particles close to 2 [mu]m aerodynamic diameter in both instruments. Both techniques undersized the smaller particles significantly, but the larger particles (more elongated) were oversized by the Aerodynamic Particle Sizer and undersized marginally by the Aerosizer. Similar behaviour was reported by Griffiths ., (1984) with micron-sized glass fibres sampled by an earlier version of the Aerodynamic Particle Sizer. Calibration/ shape standards/ instrumentation/ aerodynamic size analysis http://www.sciencedirect.com/science/article/B6V6B-487FB41-3C/2/6aae0b5b29df338c7086728895acb60b

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Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The SOLEPUR process for the treatment of pig slurry, based on the treatment effect of the soil, was developed in France to explore the notion that a simple biobarrier approach may be a potential efficient solution to the large accumulation of liquid animal wastes residues. The unit consists of (i) a managed field (3280 m2) which allows the total recovery of all the leachate water which percolates through growing ryegrass (Lolium perenne), to which the pig slurry is applied, (ii) a system of storage-pump-reactor for denitrification and (iii) a non-managed field for completing treatment. The process involves three operations: (1) overdosing the managed field with surplus slurry (about 1000 m3 pig slurry/ha.year applied from 1991 to 1994), (2) collecting and treating the nitrate-rich leachate and (3) irrigating the final treated water over other fields. This process decreased COD of pig slurry by 99.9% and removed 99.9% of phosphorus and approximately 80% of nitrogen. The
MESH HEADINGS: MINERALS
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: GRASSES
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Gramineae
LANGUAGE: eng

837. Martinez, M. Carmen Lopez and de La Torre, Jose Garcia (1983). Transport properties of rigid, symmetrical oligomeric structures composed of prolate, ellipsoidal subunits. *Biophysical Chemistry* 18: 269-279.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

We have calculated translational and rotational diffusion coefficients and intrinsic viscosities of oligomeric structures composed of n identical subunits having a prolate ellipsoidal shape with axial ratio p. Results are presented for p = 1-6 for a variety of structures with n = 1-6. We compare our results with those obtained by a different modeling procedure, proposed by other workers, in which the monomeric subunit is represented as a string of touching, colinear spheres. If n and an estimate of p are known, the structure of the oligomer can be. in most cases, unambiguously determined by comparison of the experimental oligomer-to-monorner ratios of a given property with the numerical results of this work. As examples of the applicability of our results, we examine the relationship between structure and properties for neurophysin. bovine serum albumin, hemoglobin and phycocyanin. Diffusion/ Intrinsic viscosity/ Oligomeric structure/ Neurophysin/ Hemoglobin: Bovine serum albumin/ Phycocyanin
http://www.sciencedirect.com/science/article/B6TFB-44XDD4X-21/2/1e41518c2310e6954c087f746ce6f2c8

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:153678
Chemical Abstracts Number: CAN 144:368506
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; pesticides in foods detd. by GC-triple quadrupole-MS); Gas chromatography (mass spectrometry combined with; pesticides in foods detd. by GC-triple quadrupole-MS); Capsicum; Cucumis sativus; Food analysis; Food contamination; Lycopersicon esculentum; Pesticides; Phaseolus vulgaris; Vegetable (pesticides in foods detd. by GC-triple quadrupole-MS); Tandem mass spectrometry (quadrupole; pesticides in foods detd. by GC-triple quadrupole-MS); Quadrupole mass spectrometry (tandem; pesticides in foods detd. by GC-triple quadrupole-MS)
CAS Registry Numbers: 95737-68-1 (Pyriproxifen) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (Pyriproxyfen; pesticides in foods detd. by GC-triple quadrupole-MS); 50-29-3; 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorfon); 52-85-7 (Famfur); 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 58-08-2 (Caffeine); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 86-50-0 (Azinphos methyl); 95-50-1 (1,2-Dichlorobenzene); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 120-82-1 (1,2,4-Trichlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 133-06-2 (Captan); 297-97-2 (Thionazin); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 731-27-1 (Tolilfluanide); 732-11-6 (Fosmet); 786-19-6 (Carbofenothion); 789-02-6; 886-50-0 (Terbutryn); 950-37-8 (Methidathion); 959-98-8 (Endosulfan a); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanide); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1897-45-6; 1912-24-9 (Atrazine); 2212-67-1 (Molinate); 2310-17-0; 2385-85-5 (Mirex); 2439-01-2 (Quinomethionate);

2540-82-1 (Formothion); 2921-88-2 (Chlorpyriphos); 3369-52-6 (Endosulfan ether); 3689-24-5 (Sulfotepp); 3868-61-9 (Endosulfan lactone); 5598-13-0; 5915-41-3 (Terbuthylazine); 7421-93-4 (Endrin aldehyde); 7696-12-0 (Tetramethrin); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 12318-51-3; 13171-21-6 (Phosphamidone); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 25311-71-1 (Isofenphos); 27314-13-2 (Norflurazon); 29232-93-7 (Pirimiphos methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan b); 36734-19-7 (Iprodione); 38260-54-7 (Etrimphos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenophos); 41483-43-6 (Bupirimate); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55219-65-3 (Triadimenol); 57837-19-1 (Metalaxyl); 60207-90-1 (Propiconazole); 65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68694-11-1 (Triflumizol); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 77732-09-3 (Oxadixyl); 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 88283-41-4 (Pyrifenox); 88671-89-0; 94361-06-5 (Cyproconazole); 96489-71-3 (Pyridaben); 101007-06-1 (Acrinathrin); 107534-96-3 (Tebuconazole); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 119446-68-3 (Difenconazole); 120068-37-3 (Fipronil); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 139638-67-8 (Quintocen); 143390-89-0 (Kresoxim methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides in foods detd. by GC-triple quadrupole-MS)

Citations: 1) Garrido Frenich, A; J AOAC Int 2001, 84, 1751
Citations: 2) Pablos Espada, M; Anal Lett 2001, 34, 597
Citations: 3) Fitzpatrick, L; J Chromatogr A 2000, 874, 257
Citations: 4) Egea Gonzalez, F; J AOAC Int 1997, 80, 1091
Citations: 5) Martinez Vidal, J; J Chromatogr A 2002, 959, 203
Citations: 6) Martinez Vidal, J; Rapid Commun Mass Spectrom 2002, 16, 1106
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Citations: 9) Arrebola, F; J Chromatogr A 2003, 1005, 131
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Citations: 26) SANCO; European Protection 2004
Citations: 27) Miller, J; Statistics for Analytical Chemistry 1992

A new multiresidue method has been validated in cucumber matrix for the routine anal. of 130 multiclass pesticide residues by gas chromatog./triple quadrupole mass spectrometry. The pesticides were extd. with Et acetate. A first identification of the pesticides was based on a tandem mass spectrometric (MS/MS) screening method, which monitors a single transition for each target compd., in less than 12 min. After that, potentially non-neg. samples were analyzed again by the MS/MS confirmation/quantification

method, which monitors two or three MS/MS transitions for each compd., also in less than 12 min. Performance characteristics, such as trueness, precision, linear range, detection limit (LOD) and quantification limit (LOQ), for each pesticide were calcd. The av. recoveries obtained ranged between 70 and 120% at three different fortification levels (25, 200 and 500 mg/kg) with precision, expressed as relative std. deviation (RSD), values lower than 15%. The calcd. LOD and LOQ were typically <3.2 and 9.6 mg/kg, resp. Such limits were much lower than the max. residue levels (MRLs) established by European legislation. The proposed methodol. was applied to the detn. of pesticides in real vegetable samples from Almeria (Spain). [on SciFinder (R)] 0951-4198
pesticide/ food/ analysis/ GC/ MSMS

839. Marutoiu, C., Coman, V., Vlassa, M., and Constantinescu, R. (1998). A New Detection of Some Organophosphorous Pesticides Separated by Tlc. *Journal of liquid chromatography & related technologies* 21: 2143-2149.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The paper describes a new sensitive and selective thin layer chromatographic method for the detection of some organophosphorous pesticides. Fifteen organophosphorous pesticides have been separated on thin layer using different stationary phases prepared at the "Raluca Ripan" Institute of Chemistry Cluj-Napoca, Roumania (silica gel R, amino bonded silica gel R) and some mixtures with different polarities as mobile phase (petroleum ether + chloroform + ethyl acetate 65:30:5, v/v). The detection was performed by spraying the TLC plates with a 9-methylacridine solution (0.05%) in ethanol and their examination under UV light at 366 nm. The spots present different colors and intensities. Detection limit is between 0.1 10 mug/spot.
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Pest Control
LANGUAGE: eng

840. Marutoiu, Constantin, Coman, Virginia, Vlassa, Mircea, and Constantinescu, Rodica (1998). A new detection of some organophosphorus pesticides separated by TLC. *Journal of Liquid Chromatography & Related Technologies* 21: 2143-2149.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1998:523844
Chemical Abstracts Number: CAN 129:199260
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: TLC (detn. of organophosphorus pesticides by TLC); Pesticides (organophosphorus; detn. of organophosphorus pesticides by TLC)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 60-51-5 (Dimethoate); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion

methyl); 298-04-4 (Disulfoton); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 950-37-8 (Methidathion); 2310-17-0 (Phosalone); 16672-87-0 (Ethephon) Role: ANT (Analyte), ANST (Analytical study) (detn. of organophosphorus pesticides by TLC); 611-64-3 (9-Methylacridine) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (visualization reagent in detn. of organophosphorus pesticides by TLC)
Citations: 1) Chambers, J; Basic Environmental Toxicology 1994, 185
Citations: 2) Manescu, S; Chimia Sanitara a Mediului (Sanitary Chemistry of Environmental) 1994, 315
Citations: 3) Kirchner, J; Thin Layer Chromatography 1978, 694
Citations: 4) Sherma, J; J Planar Chromatogr-Mod TLC 1994, 7, 265
Citations: 5) Mali, B; J Chromatogr A 1995, 704, 540
Citations: 6) Hauk, H; J Planar Chromatogr-Mod TLC 1989, 2, 268
Citations: 7) Marutoiu, C; Analusis 1986, 14, 95
Citations: 8) Marutoiu, C; J High Resolut Chromatogr, Chromatogr Commun 1987, 10, 465
Citations: 9) Fodor-Csorba, K; J Chromatogr 1992, 624, 353
Citations: 10) Tsuge, O; Bull Chem Soc Jpn 1963, 36, 1477
Citations: 11) Marutoiu, C; Rev Chim (Bucharest) 1994, 45, 600 The paper describes a new sensitive and selective TLC method for the detection of some organophosphorus pesticides. Fifteen organophosphorus pesticides have been sepd. on thin layer using different stationary phases (silica gel R, amino bonded silica gel R) and as mobile phase petroleum ether-chloroform-Et acetate (65:30:5, vol./vol.). The detection was performed by spraying the TLC plates with a 9-methylacridine soln. (0.05%) in ethanol and examn. under UV light at 366 nm. The spots present different colors and intensities. Detection limit is 0.1-10 mg/spot. [on SciFinder (R)] 1082-6076 organophosphorus/ pesticide/ detn/ TLC

841. Masel, Richard I., Ni, Zheng, and Shannon, Mark A (20070419). High gain selective preconcentrators. 82pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:435566
Chemical Abstracts Number: CAN 146:433665
Section Code: 80-2
Section Title: Organic Analytical Chemistry
Coden: PIXXD2
Index Terms: Gases (carrier; metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators); Resistors (chemiresistors; metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators); Crystal structure types (cubic; metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators); Chemical warfare agents; Collecting apparatus; Concentration; Disks; Dosimeters; Evanescent wave; Explosives; Films; Gas chromatographs; Heaters; Ion mobility spectrometers; Membrane electrodes; Microwave ovens; Particles; Pellets; Piezoelectric sensors; Respirators; Sorbents; Sorption; Surface acoustic wave sensors; Valves (metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators); Oxides Role: TEM (Technical or engineered material use), USES (Uses) (metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators); Micromachines (microelectromech. devices; metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators); Concentrators (pre-; metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators); Sampling apparatus (swabs; metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators); Desorption (thermal; metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators); Flow (viscous; metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators)
CAS Registry Numbers: 107-44-8 (Sarin); 108-24-7 (Acetic anhydride); 118-96-7 (TNT); 121-75-5 (Malathion); 121-82-4 (RDX); 683-08-9 (Diethyl methylphosphonate); 732-11-6 (PMP); 756-

79-6 (DMMP); 1445-75-6 (Diisopropyl methylphosphonate); 36542-63-9 (Dichlorohexane); 50782-69-9 (VX) Role: ANT (Analyte), ANST (Analytical study) (metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators); 100-21-0 (Terephthalic acid); 553-26-4 (4,4'-Dipyridyl); 554-95-0 (1,3,5-Benzenetricarboxylic acid); 605-70-9 (1,4-Naphthalenedicarboxylic acid); 610-29-7 (Nitroterephthalic acid); 1461-94-5 (cis-Cyclobutane-1,2-dicarboxylic acid); 3251-23-8 (Cupric nitrate); 4282-31-9 (2,5-Thiophenedicarboxylic acid); 7761-88-8 (Silver nitrate); 10022-68-1 (Cadmium nitrate tetrahydrate); 10026-22-9 (Cobalt nitrate hexahydrate); 10196-18-6 (Zinc nitrate hexahydrate); 10312-55-7 (2-Aminoterephthalic acid); 14609-54-2 (4,4',4'',4'''-(21H,23H-Porphine-5,10,15,20-tetrayl)tetrakis(benzoic acid); 20346-74-1 (Cadmium nitrate hexahydrate); 57584-27-7 (Terbium nitrate pentahydrate); 71033-00-6; 175278-21-4 (2-(Trifluoromethoxy)terephthalic acid); 934336-70-6 (3,3-Bis(trifluoromethyl)-1-oxo-5-isobenzofurancarboxylic acid) Role: RCT (Reactant), RACT (Reactant or reagent) (metal oxide frameworks as a sorbent of an analyte in high gain selective preconcentrators)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2005-724313
Priority Application Date: 20051006 Novel metal org. framework (MOF) mols. and methods of synthesizing them are described. MOFs are organometallic cryst. structures that have high sorption capacity due to high surface area, tailorable selectivity, an inert nature, and thermal stability at high temps. MOFs may be used as sorbents in preconcentrators for anal. devices to provide orders of magnitude of improved sensitivity in analyte detection. MOFs are also useful as sorbents in new compact and portable micropreconcentrator designs such as a modified purge and trap system and a multi-valve microelectromech. system (MEMS) to achieve high gain in analyte detection. Further, MOFs may be used as coatings for novel microstructure arrays in micropreconcentrators where the microstructures are designed to increase the surface area to vol. ratio inside the micropreconcentrator while minimizing the pressure drop across the micropreconcentrator. [on SciFinder (R)] preconcentrator

842. Mastovska, K., Hajslova, J., Godula, M., Krivankova, J., and Kocourek, V (2001). Fast temperature programming in routine analysis of multiple pesticide residues in food matrices. *Journal of Chromatography, A* 907: 235-245.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:23609
Chemical Abstracts Number: CAN 134:236395
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Food analysis; Pesticides; Wheat (detn. of pesticides in food by flash gas chromatog.); Gas chromatography (flash; detn. of pesticides in food by flash gas chromatog.)
CAS Registry Numbers: 56-38-2 (Parathionethyl); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 121-75-5 (Malathion); 298-00-0 (Parathionmethyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifosethyl); 5598-13-0; 7786-34-7 (Mevinphos); 29232-93-7 (Pirimiphosmethyl)

Role: ANT (Analyte), ANST (Analytical study) (detn. of pesticides in food by flash gas chromatog.)
Citations: 1) Blumberg, L; J High Resolut Chromatogr 1997, 20, 597
Citations: 2) Blumberg, L; J High Resolut Chromatogr 1997, 20, 679
Citations: 3) Blumberg, L; J High Resolut Chromatogr 1999, 22, 403
Citations: 4) van Es, A; High Speed Narrow Bore Capillary Gas Chromatography 1992
Citations: 5) MacDonald, S; Int Environ Technol 1998, 8, 30
Citations: 6) MacDonald, S; Int Lab News 1998, 28, 13C
Citations: 7) Williams, T; J Chromatogr Sci 1999, 37, 210
Citations: 8) van Lieshout, M; J High Resolut Chromatogr 1998, 21, 583
Citations: 9) van Deursen, M; J High Resolut Chromatogr 1999, 22, 509
Citations: 10) Reed, G; J Chromatogr Sci 1999, 37, 300
Citations: 11) Dalluge, J; J High Resolut Chromatogr 1999, 22, 459
Citations: 12) McNair, H; J Microcol Sep 2000, 12, 351
Citations: 13) Jennings, W; 18th International Symposium on Capillary Chromatography 1996, I, 1
Citations: 14) Dalluge, J; 23th International Symposium on Capillary Chromatography 2000, Section I, 14 Flash gas chromatog. (GC) anal. of 15 organophosphorus pesticides commonly occurring in food crops was performed using the Thermedics Detection EZ Flash upgrade kit installed in the oven of a HP 5890 Series II Plus gas chromatograph. The temp. program and splitless time period were the main parameters to be optimized. In the first set of expts., wheat matrix-matched stds. were analyzed both by: (i) the flash GC technique (resistive heating of a 5 m capillary column), and (ii) the conventional GC technique (moderate oven temp. programming of a 30 m capillary column). Using the flash GC technique, the anal. time was reduced by a factor of more than 10 compared to the conventional GC technique. Dramatically improved detectability of analytes was achieved due to much narrower peak widths. The flash GC technique was compared with another approach to faster GC anal. employing a 5 m column and fast temp. programming with a conventional GC oven. In comparison with this alternative, in the case of flash GC significantly better retention time repeatability was obsd. The other superiority of resistive heating is very rapid cooling down (i.e., equilibration to the initial conditions) which contributes to the increased sample throughput. [on SciFinder (R)] 0021-9673 pesticide/ food/ flash/ gas/ chromatog

843. Mastovska, Katerina, Hajslova, Jana, and Lehotay, Steven J (2004). Ruggedness and other performance characteristics of low-pressure gas chromatography-mass spectrometry for the fast analysis of multiple pesticide residues in food crops. *Journal of Chromatography, A* 1054: 335-349.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:869042
Chemical Abstracts Number: CAN 142:37107
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; low-pressure gas chromatog.-mass spectrometry for fast anal. of multiple pesticide residues in food crops); Crop; Daucus carota; Food; Lactuca sativa; Malus pumila; Pesticides; Triticum aestivum (low-pressure gas chromatog.-mass spectrometry for fast anal. of multiple pesticide residues in food crops); Gas chromatography (mass spectrometry combined with; low-pressure gas chromatog.-mass spectrometry for fast anal. of multiple pesticide residues in food crops)
CAS Registry Numbers: 68359-37-5 Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (Beta-cyfluthrin; low-pressure gas chromatog.-mass spectrometry for fast anal. of multiple pesticide residues in food crops); 55-38-9 (Fenthion); 56-38-2 (Parathion-ethyl); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorovos); 63-25-2 (Carbaryl); 86-

50-0 (Azinphos-methyl); 101-21-3 (Chloropropham); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-42-9 (Propham); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 470-90-6; 563-12-2 (Ethion); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chloropyrifos); 5598-13-0; 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13171-21-6 (Phosphamidon); 18181-80-1 (Bromopropylate); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 30864-28-9 (Methacriphos); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan II); 35554-44-0 (Imazalil); 38260-54-7 (Etrimfos); 41483-43-6 (Bupirimate); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 57018-04-9 (Tolclofos-methyl); 72490-01-8 (Fenoxycarb); 82657-04-3 (Bifenthrin); 91465-08-6 (l-Cyhalothrin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (low-pressure gas chromatog.-mass spectrometry for fast anal. of multiple pesticide residues in food crops)

Citations: 1) Mastovska, K; J Chromatogr A 2003, 1000, 153
Citations: 2) Giddings, J; Anal Chem 1962, 34, 314
Citations: 3) Cramers, C; J Chromatogr 1981, 203, 207
Citations: 4) Leclercq, P; J Chromatogr 1982, 241, 61
Citations: 5) Leclercq, P; J High Resolut Chromatogr Chromatogr Commun 1985, 8, 764
Citations: 6) Leclercq, P; J High Resolut Chromatogr Chromatogr Commun 1987, 10, 269
Citations: 7) de Zeeuw, J; J High Resolut Chromatogr 2000, 23, 677
Citations: 8) van Deursen, M; J Microcolumn Sep 2000, 12, 613
Citations: 9) Mastovska, K; J Chromatogr A 2001, 926, 299
Citations: 10) Gonzalez-Rodriguez, M; Rapid Commun Mass Spectrom 2002, 16, 1216
Citations: 11) Arrebola, F; J Chromatogr A 2003, 1005, 131
Citations: 12) Garrido-Frenich, A; Anal Bioanal Chem 2003, 377, 103
Citations: 13) Dagan, S; J Am Soc Mass Spectrom 1996, 7, 737
Citations: 14) van Deursen, M; J Chromatogr A 2000, 878, 205
Citations: 15) Andersson, A; Fresenius J Anal Chem 1991, 339, 365
Citations: 16) Food And Drug Administration; Pesticide Analytical Manual:Multiresidue Methods, third ed 1994, I
Citations: 17) General Inspectorate For Health Protection; Analytical Methods for Pesticide Residues in Foodstuffs, sixth ed 1996
Citations: 18) Anon; Agilent 6890 Specification Note
Citations: 19) Hinshaw, J; LC-GC North Am 2000, 18, 1142
Citations: 20) Hajslova, J; Proceedings of the 23th International Symposium on Capillary Chromatography, Section E, Contribution No 5 2000
Citations: 21) Mastovska, K; J Chromatogr A 2001, 907, 235
Citations: 22) Wylie, P; J AOAC Int 1996, 79, 571
Citations: 23) Godula, M; J High Resolut Chromatogr 1999, 22, 395
Citations: 24) Dalluge, J; J Sep Sci 2002, 25, 608
Citations: 25) Erney, D; J Chromatogr 1993, 638, 57
Citations: 26) Soboleva, E; Principles and Practices of Method Validation 2000, 138
Citations: 27) Hajslova, J; J Chromatogr A 2003, 1000, 181
Citations: 28) Anastassiades, M; J Chromatogr A 2003, 1015, 163
Citations: 29) Lehotay, S; J AOAC Int 2000, 83, 680
Citations: 30) Amirav, A; Eur Mass Spectrom 1997, 3, 105
Citations: 31) Patel, K; Analyst 2003, 128, 1228
Citations: 32) Mastovska, K; Anal Chem, manuscript in preparation Low-pressure gas chromatog.-mass spectrometry (LP-GC-MS) using a quadrupole MS instrument was further optimized and evaluated for the fast anal. of multiple pesticide residues in food crops. Performance of two different LP-GC-MS column configurations was compared in various expts., including ruggedness tests with repeated injections of pesticides in matrix exts. The tested column configurations employed the same 3 m * 0.15 mm i.d. restriction capillary at the inlet end, but

different anal. columns attached to the vacuum: (A) a 10 m * 0.53 mm i.d., 1 mm film thickness RTX-5 Sil MS column; and (B) a 10 m * 0.25 mm i.d., 0.25 mm film thickness DB-5MS column. Under the optimized conditions (compromise between speed and sensitivity), the narrower anal. column with a thinner film provided slightly (<1.1-fold) faster anal. of <5.5 min sepn. times and somewhat greater sepn. efficiency. However, lower detection limits for most of the tested pesticides in real exts. were achieved using the mega-bore configuration, which also provided significantly greater ruggedness of the anal. (long-term repeatability of analyte peak intensities, shapes, and retention times). Addnl., the effect of the increasing injection vol. (1-5 ml) on analyte signal-to-noise ratios was evaluated. For the majority of the tested analyte-matrix combinations, the increase in sensitivity caused by a larger injection did not translate in the same gain in analyte detectability. Considering the costs and benefits, the injection vol. of 2-3 ml was optimal for detectability of the majority of 57 selected pesticides in apple, carrot, lettuce, and wheat exts. [on SciFinder (R)] 0021-9673 pesticide/ food/ crop/ GC/ MS

844. Matsuzaki, Shigenobu, Inoue, Tetsuyoshi, Kuroda, Masayuki, Kimura, Susumu, and Tanaka, Shuji (1998). Cloning and sequencing of major capsid protein (mcp) gene of a vibriophage, KVP20, possibly related to T-even coliphages. *Gene* 222: 25-30.
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

A large, tailed, prolate-headed vibriophage designated KVP20 was isolated from seawater. KVP20 was morphologically very similar to the previously described vibriophage, KVP40 (Matsuzaki, S., Inoue, T., Tanaka, S., 1998. Virology, 242, 314-318). However, they showed entirely different host specificities and could easily be differentiated from each other by their patterns of DNA restriction fragments. The major capsid protein (mcp) gene of KVP20 encoding the precursor of major capsid protein (pro-Mcp) was cloned and sequenced. The deduced amino-acid (aa) sequence of KVP20 pro-Mcp was compared with the reported aa sequences of KVP40 pro-Mcp, as well as of the equivalent proteins (gp23s) of coliphages T4 and RB49. There was 96.7, 57.5, and 55.2% homology to the corresponding proteins of KVP40, T4, and RB49, respectively. These data strongly suggest that the two vibriophages are closely related to each other and that they are both distantly, but definitely, related to coliphages T4 and RB49. Bacteriophage/ Vibrio/ Coliphage T4/ Evolution http://www.sciencedirect.com/science/article/B6T39-3V5J61M-3/2/017150c2bde15662a367ec42b50b7a3b

845. Mattern, Gregory C., Singer, George M., Louis, Judy, Robson, Mark, and Rosen, Joseph D (1990). Determination of several pesticides with a chemical ionization ion trap detector. *Journal of Agricultural and Food Chemistry* 38: 402-7.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1990:117428
Chemical Abstracts Number: CAN 112:117428
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in fruits and vegetables by gas chromatog.-mass spectrometry); Mass spectroscopy (gas chromatog. combined with, of pesticides); Chromatography (mass spectrometry combined with, of pesticides); Apple; Peach; Potato; Tomato (pesticides detn. in, by gas chromatog.-mass spectrometry)
CAS Registry Numbers: 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 85-40-5 (Tetrahydrophthalimide); 86-50-0 (Azinphos-methyl); 90-15-3 (1-Naphthol); 99-30-9 (Dichloran); 133-06-2 (Captan); 732-11-6 (Phosmet); 1563-66-2 (Carbofuran); 1897-45-6 (Chlorothalonil); 2425-06-1 (Captafol); 10265-92-6 (Methamidophos); 30560-19-1 (Acephate); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin) Role: ANT (Analyte), ANST (Analytical study)

(detn. of, in fruits and vegetables by gas chromatog.-mass spectrometry) Apple, peach, tomato, and potato (25 samples each) were analyzed for 12 pesticides and 2 pesticide metabolites with a slightly modified Luke multiresidue extn. procedure (1), sepn. by capillary column (DB-1 Me silicone fused silica) gas chromatog. with cold on-column injection and temp. programming (50-300 Deg at 15 Deg/min), and detection by mass chromatog. with an ion trap mass spectrometer in the chem. ionization mode (GC/CIMS). Residues of carbaryl, captan, dichloran, dimethoate, methamidophos, phosmet, and tetrahydrophthalimide were found in several samples, with peaches contg. the most residues. None of the residues was above legal tolerances. Recovery studies at the 0.5 ppm fortification level of each pesticide and metabolite in each of the crops indicated recoveries of 73-120%, with an av. relative std. deviation of 11%. Because the computer can be programmed to search for several hundred targeted ions, the use of capillary column GC/CIMS is a promising method that should be explored by regulatory agencies for the anal. of pesticide residues. [on SciFinder (R)] 0021-8561 gas/ chromatog/ pesticide;/ mass/ spectrometry/ pesticide;/ pesticide/ detn/ fruit/ vegetable;/ apple/ pesticide/ detn;/ peach/ pesticide/ detn;/ tomato/ pesticide/ detn;/ potato/ pesticide/ detn

846. Matthewson, Michael Derek (19840510). Controlling ectoparasites with a pyrethroid and an organophosphorus compound. 35 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1984:524933
Chemical Abstracts Number: CAN 101:124933
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: ALXXAP
Index Terms: Pyrethrins and Pyrethroids Role: BIOL (Biological study) (acaricidal formulations contg. organophosphorus compds. and); Amblyomma; Anocentor; Boophilus microplus; Dermacentor; Haemaphysalis; Hyalomma; Ixodes; Rhipicephalus (control of, by organophosphorus compd.-pyrethroid mixts.); Acaricides (organophosphorus insecticides-pyrethroid mixts.)
CAS Registry Numbers: 52645-53-1; 52918-63-5 Role: BIOL (Biological study) (acaricidal formulations contg. organophosphorus compds. and); 78-34-2; 141-66-2; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 786-19-6; 1776-83-6; 2921-88-2; 4824-78-6; 7700-17-6; 16759-59-4 Role: BIOL (Biological study) (acaricidal formulations contg. pyrethroids and)
Patent Application Country: Application: AU The activity of organophosphorus pesticides, e.g., bromophos-ethyl [4824-78-6] and chlorpyrifos [2921-88-2], against ectoparasites of the suborders Ixodoidea and Sarcoptiformes was potentiated by adding a pyrethroid of the formula I (X = H or CN). Thus, mixts. of permethrin [52645-53-1] and bromophos-Et, chlorpyrifos, diazinon [333-41-5], dioxathion [78-34-2], ethion [563-12-2], dicrotophos [141-66-2] or chlorfenvinphos [470-90-6] at ratios 1:1, 1:5, and 5:1 were more effective against Boophilus microplus than each component alone. Decamethrin [52918-63-5] mixts. with the above organophosphorus insecticides showed the same trend as permethrin. Different formulations (miscible-oil, dusting powder, wettable powder, pressure-pack) of I and organophosphorus pesticides are described. A 99.9% control of B. microplus was obtained with a mixt. of 500 ppm ethion and 100 ppm permethrin. [on SciFinder (R)] A01N053-00; A01N057-14; A01N057-16; A01N057-22. pyrethroid/ phosphorus/ insecticide/ acaricide;/ ectoparasite/ pyrethroid/ acaricide

847. Max Finlayson, C. and Chick, Alan J. (1983). Testing the potential of aquatic plants to treat abattoir effluent. *Water Research* 17: 415-422.
Chem Codes: Chemical of Concern: PSM Rejection Code: EFFLUENT, FATE.

The potential of 3 genera of emergent aquatic plant species (Typha spp, Phragmites and Scirpus) to ameliorate effluent from a poultry abattoir was evaluated in an experimental trench system. Three plastic-lined trenches containing Typha (two species), Phragmites and Scirpus plants in a

gravel substrate were constructed near the abattoir. Effluent was allowed to percolate, with retention times of 2.7-3.6 days, through the trenches. The quality of the inflowing and outflowing effluent was compared by a regular sampling program for suspended solids, conductivity, turbidity, pH, dissolved oxygen, Na, K, Cl, N and P concentrations. The importance of water loss by evapotranspiration was investigated. Comparing the inflow to outflow, each trench system successfully reduced the suspended solids (83-89%), turbidity (58-67%), total nitrogen (14-56%) and total phosphorus (37-61%) concentration of the effluent while maintaining an acceptable pH and in the case of the Phragmites and Scirpus systems oxygenating the anaerobic inflow. Conductivity increased in the Typha and Phragmites trenches. If a correction is made for water lost by evapotranspiration, the three experimental trench systems reduced the nitrogen (42-75%), phosphorus (68-79%), sodium (7-34%), potassium (9-56%) content of the effluent. The chloride content of the effluent in the Phragmites system was increased by 15% but was reduced by 31 and 53% in the Typha and Scirpus systems respectively. The results from this initial experiment give an indication of the relative abilities of the three plant systems to treat the wastewater from the abattoir. Of the three, that containing the Scirpus was superior.
http://www.sciencedirect.com/science/article/B6V73-48BDR9M-R4/2/1fa5e3de019042ed5030ca142c2226fd

848. Maxey, George B. and Hackett, James E. (1963). Applications of geohydrologic concepts in geology. *Journal of Hydrology* 1: 35-45.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Subsurface water, an active agent in many geologic proceses, must be considered in interpreting geologic phenomena. Principles of the occurrence, distribution, and movement of subsurface waters are well established and readily applicable. In many interpretations in geologic literature, geohydrologic principles have been employed realistically, but in many others these principles have been either ignored or violated. Explanations of genesis of underclays and associated deposits afford some examples wherein principles of movement and activity of vadose and ground water have been ignored and others in which they have been used advantageously. Postulates stating that waters percolate downward from swamp areas do not allow for the usual movement of subsurface water in such environments. The idea that sediments were leached by vadose water after uplift satisfies the geohydrologic requirements. Weathering and solution form porous and permeable zones subjacent to unconformities in dense rocks such as carbonates and granites; this illustrates the geohydrologic and economic significance of unconformities. Examples are Mohawkian carbonate aquifers of northern Illinois and oil-bearing limestones of Mississippian age of eastern Montana. The flushing effects of meteoric water and other hydrodynamic factors active during erosion periods are important elements in the genesis and concentration of brines. Explanation of the origin and occurrence of brines must include consideration of the geohydrologic environments throughout their geologic history.
http://www.sciencedirect.com/science/article/B6V6C-487FD7N-1K0/2/3a33a6711b349e7b2dc89935697bee37

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Chem Codes: EcoReference No.: 20679
Chemical of Concern: EDT,TXP,CBL,DDT,CPY,EN,CLD,PSM,GYP Rejection Code: REFS CHECKED/REVIEW.

850. Mayfield, M. H. (1999). A New Species of Emorya (Buddlejaceae). *SIDA, Contributions to Botany, 18 (3) pp. 693-699, 1999*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0036-1488
Abstract: A new species of Buddlejaceae, Emorya rinconensis, is described here as the second species of the genus. The species is known from a single collection from the Serranias del Burro in northern Coahuila, Mexico. Although associated with a more mesic flora than Emorya suaveolens,

morphological adaptations and associated species suggest that E. rinconensis may grow in edaphically xeric, steep rock outcrops. The racemose inflorescences of the new species are unique among New World Buddlejaceae and appear to represent a reduction from the open, few-flowered axillary cymes found in Emorya suaveolens. In the context of North American Buddlejaceae, the long tubular corollas in open inflorescences, long styles, linear calyx lobes, and prolate pollen support the present generic placement of the new species with Emorya, but future confirmation of the phyletic position of both species in a larger geographic context is needed.
11 refs.
Language: English
English; Spanish
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.14.1.1 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: New taxa, revised nomenclature
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

851. McCauley, Linda A., Lasarev, Michael R., Higgins, Gregory, Rothlein, Joan, Muniz, Juan, Ebbert, Caren, and Phillips, Jacki (2001). Work characteristics and pesticide exposures among migrant agricultural families: A community-based research approach. *Environmental Health Perspectives* 109: 533-538.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:475938
Chemical Abstracts Number: CAN 135:184745
Section Code: 59-5
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Dust (house; pesticide exposures among migrant Latino agricultural families); Indoor air pollution; Pesticides; Public health (pesticide exposures among migrant Latino agricultural families)
CAS Registry Numbers: 50-29-3 (DDT); 51-03-6 (Piperonyl butoxide); 63-25-2 (Carbaryl); 72-55-9 (DDE); 86-50-0 (Azinphos-Methyl); 87-86-5 (Pentachlorophenol); 121-75-5 (Malathion); 133-06-2 (Captan); 732-11-6 (Phosmet); 2921-88-2 (Dursban) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (pesticide exposures among migrant Latino agricultural families)
Citations: 1) Institute of Medicine; Research, Education, and Health Policy Needs 1999
Citations: 2) US GAO; Improvements Needed to Ensure the Safety of Farmworkers and Their Children 2000, GAO/RCED-00-40
Citations: 3) National Advisory Council on Migrant Health; Recommendations of The National Advisory Council on Migrant Health 1993
Citations: 4) Richardson, L; Community-based Health Care: Nursing Strategies 1995
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Citations: 11) Rohlman, D; Neurotoxicology 2000, 21(5), 715
Citations: 12) Rohlman, D; Neurotoxicology 2000, 21(6), 973
Citations: 13) McCauley, L; the American Public Health Association Annual Meeting 1999
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Citations: 16) Anon; Study checks farm pesticide exposure 2000, B10
Citations: 17) Villarejo, D; Occup Med 1999, 14(3), 613
Citations: 18) US National Advisory Council on Migrant Health; Health and Human Services 1995
Citations: 19) Loewenherz, C; Environ Health Perspect 1997, 105(12), 1344
Citations: 20) Myers, R; Classical and Modern Regression with Applications 2nd ed 1990 There are few data on pesticide exposures of migrant Latino farmworker children, and access to this vulnerable population is often difficult. A community-based approach to implement culturally appropriate research methods with a migrant Latino farmworker community in Oregon is described. Assessments were conducted in 96 farmworker homes and 24 grower homes in 2 agricultural communities in Oregon. Measurements included surveys of pesticide use and work protection practices and analyses of home-dust samples for pesticide residues of major organophosphates used in area crops. Results indicate that migrant farmworker housing is diverse, and the amts. and types of pesticide residues found in homes differ. Azinphos-Me (AZM) was the pesticide residue found most often in both farmworker and grower homes. The median level of AZM in farmworker homes was 1.45 ppm compared to 1.64 ppm in the entry area of grower homes. The median level of AZM in the play areas of grower homes was 0.71 ppm. The levels of AZM in migrant farmworker homes were most assocd. with the distance from fields and the no. of agricultural workers in the home. Although the levels of AZM in growers and farmworker homes were comparable in certain areas, potential for disproportionate exposures occur in areas of the homes where children are most likely to play. The relationship between home resident d., levels of pesticide residues, and play behaviors of children merit further attention. [on SciFinder (R)] 0091-6765 pesticide/ exposure/ azinphosmethyl/ migrant/ farmworker/ children;/ agricultural/ Latino/ children/ pesticide/ exposure/ azinphosmethyl

852. Mcchesney, M. M. and Seiber, J. N. (1989). Pesticide Residue Content of Ambient Air Samples From Sites in California's San Joaquin Valley Usa. *197th american chemical society national meeting, dallas, texas, usa, april 9-14, 1989. Abstr pap am chem soc* 197: Agro 29.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT PHOSMET AZINPHOS-METHYL ENDOSULFAN CHLORPYRIFOS RISK ASSESSMENT HEALTH
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control

LANGUAGE: eng

853. Mccully, L. A. (Report on Organophosphorus Pesticides.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. Various reports on organophosphorus pesticide residue analysis techniques are presented in a brief summary. A method for ethoprop residues by gas-liquid chromatography (GLC) with flame photometric detection is described. Residue methodology using GLC for fenamiphos and fensulfothion in tobacco is also given. A polarographic technique for phosmet in apples is reported. A technique to simultaneously determine residues of vamidothion, its sulfoxide, and its sulfone in tobacco has been developed. A GLC method applicable to 40 organophosphorus pesticide residues in plant material is described. Other GLC techniques are described for the determination of organophosphorus compounds in such substrates as Chinese cabbage, foods, organic soils, and other fruits and vegetables are given. Confirmation procedures are discussed for various pesticide residues in water. Results of studies involving the sweep codistillation technique are reported. Specific reports are still needed on such topics as chlorine-containing organophosphorus pesticides, extraction procedures, soil, and water. [At the 92nd annual meeting of the Association of Official Analytical Chemists.]

854. McDaniel, Joe D. Jr. and Pruitt, Paul L (19820526). Pet collar including recrystallized phosmet. 13 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1982:467843
Chemical Abstracts Number: CAN 97:67843
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: EPXXDW
Index Terms: Animal (parasiticidal collars for, recrystd. phosmet-contg.); Parasiticides (ecto-, pet collars contg.)
CAS Registry Numbers: 732-11-6 Role: BIOL (Biological study) (recrystd., odorless pet collars contg.)
Reg.Pat.Tr.Des.States: Designated States R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE.
Patent Application Country: Application: EP
Priority Application Country: US
Priority Application Number: 80-206916
Priority Application Date: 19801114 Parasiticidal pet collars are manufd. by incorporating recrystd. phosmet [732-11-6] into a vinyl chloride polymer. The collars are odorless and long-lasting. Thus, phosmet rendered odorless by recrystn. from a toluene-MeOH mixt. is incorporated into PVC, as usual, and shaped into collars which protected dogs against the American dog tick (Dermacentor variabilis), brown dog tick (Rhipicephalus sanguineus), and fleas (Centocephalous) for 10 mo. [on SciFinder (R)] A01N025-34; A01N057-16; A01K027-00; C07F009-65. phosmet/ pet/ collar/ parasiticide;/ ectoparasite/ insecticide/ pet/ collar

855. McKone, Thomas E., Castorina, Rosemary, Harnly, Martha E., Kuwabara, Yu, Eskenazi, Brenda, and Bradman, Asa (2007). Merging Models and Biomonitoring Data to Characterize Sources and Pathways of Human Exposure to Organophosphorus Pesticides in the Salinas Valley of California. *Environmental Science & Technology* 41: 3233-3240.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:319504
Chemical Abstracts Number: CAN 146:467113
Section Code: 59-2

Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4, 5, 17, 19, 61
Document Type: Journal
Language: written in English.
Index Terms: Dust (airborne, pesticides in; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Skin (dermis, pesticide uptake through; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Airborne particles (dust, pesticides in; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Air pollution; Environmental pollution; Human; Indoor air pollution; Simulation and Modeling; Soil pollution; Water pollution (integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Pesticides (organophosphorus; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Air pollution (particulate; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Diet (pesticide exposure via; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Health hazard (pesticide exposure; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Urine (pesticide metabolites in; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Breathing (pesticide uptake via inhalation; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Food (pesticide uptake via; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Environmental transport; Fugacity (pesticide; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); Biomarkers (urinary; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California)
CAS Registry Numbers: 60-51-5 (Dimethoate); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 298-00-0 (Methylparathion); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyrifos) Role: ADV (Adverse effect, including toxicity), BSU (Biological study, unclassified), OCU (Occurrence, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); 598-02-7 (Diethylphosphate); 813-78-5 (Dimethylphosphate); 2465-65-8; 32534-66-0 (Dimethyldithiophosphate); 52857-42-8 (Diethyldithiophosphate); 59401-04-6 (Dimethylthiophosphate) Role: BSU (Biological study, unclassified), BIOL (Biological study) (urinary; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California); 14265-44-2D (Phosphate) Role: BSU (Biological study, unclassified), NUU (Other use, unclassified), BIOL (Biological study), USES (Uses) (urinary; integrating fate and exposure models and biomonitoring data to evaluate contribution of sources and pathways of human exposure to organophosphorus pesticides in Salinas Valley, California)
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Citations: 2) Mackay, D; Multimedia Environmental Models:The Fugacity Approach, 2nd ed 2001
Citations: 3) McKone, T; Ann Rev Environ Resour 2004, 28, 463

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Citations: 7) Eskenazi, B; J Child Health 2003, 1(1), 3
Citations: 8) Bradman, A; Environ Health Perspect 2005, 113(2), 1802
Citations: 9) Bradman, A; J Expo Sci Environ Epidemiol, doi:10.1038/sj jes 7500507 2006
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Citations: 11) McKone, T; http://eetd.lbl.gov/ied/era/ 2003
Citations: 12) Bennett, D; Environ Sci Technol 2004, 38(7), 2142
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Citations: 14) Cdc; Second National Report on Human Exposure to Environmental Chemicals 2003
Citations: 15) Bradman, A; Environ Health Perspect 2005, 113(12), 1795
Citations: 16) Dpr; Pesticide Use Report, Annual 2000, Indexed by Chemical and by Crop 2000
Citations: 17) Cdc; http://www.cdc.gov/nchs/about/major/nhanes/datalink.htm 2004
Citations: 18) McKone, T; http://eetd.lbl.gov/ied/era/ 1993
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Citations: 26) U S Department Of Agriculture; Food and Nutrient Intakes by Individuals in the United States, by Sex and Age 1998
Citations: 27) Pennington, J; Food Addit Contam 1992, 9(3), 253
Citations: 28) California Department Of Pesticide Regulation; http://www-cdpr.ca.gov/docs/pstrsmon/rsmonmnu.htm#data 2007
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Citations: Bennett, D; Environ Sci Technol 2004, 38(7), 2142
Citations: Block, G; J Clin Epidemiol 1990, 43(12), 1327
Citations: Bradman, A; Environ Health Perspect 2005, 113(2), 1802
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Citations: California Department Of Pesticide Regulation; http://www.cdpr.ca.gov/docs/pstrsmon/rsmonmnu.htm#data 2007
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Citations: Eskenazi, B; Journal of Child Health 2003, 1(1), 3
Citations: Harley, K; Paediatr Perinat Epidemiol 2005, 19(2), 125
Citations: Icrp; Reference Man:Anatomical, Physiological and Metabolic Characteristics 1975
Citations: Mackay, D; Multimedia Environmental Models:The Fugacity Approach, 2nd ed 2001
Citations: McKone, T; Annual Reviews of Environment and Resources 2004, 28, 463
Citations: McKone, T; http://eetd.lbl.gov/ied/era/ 2003
Citations: McKone, T; Risk Analysis 1992, 12, 543
Citations: Shealy, D; Environ Int 1996, 22(6), 661
Citations: Thatcher, T; Atmospheric Environment 1995, 29(13), 1487
Citations: Us Department Of Agriculture; Food and Nutrient Intakes by Individuals in the United States, by Sex and Age 1998
Citations: Usepa; Office of Health and Environmental Assessment 1992
Citations: Westgard, J; http://www.westgard.com/ 2003 The cumulative intake of organophosphorus (OP) pesticides in an agricultural region of California was characterized using human biomonitoring data, California pesticide use reporting data, and limited environmental

samples together with output from the CalTOX multi-media, multi-pathway, source-to-dose model. The study population was the CHAMACOS cohort of almost 600 pregnant Latina women in the Salinas Valley region. Model ests. of OP intake and urinary dialkylphosphate (DAP) metabolite excretion were used to develop premises about relative contributions from different exposure sources and pathways. These premises were evaluated by comparing the magnitude and variation of DAP in the CHAMACOS cohort with those of the entire US population using National Health and Nutrition Examn. Survey (NHANES) data. This comparison supported the premise that diet was the common, dominant exposure pathway in both populations. Biomarker comparisons and model results supported the observation that, relative to NHANES, the CHAMACOS population had a statistically significant ($p < 0.001$) added OP pesticide intake with low inter-individual variability. The magnitude and small variance of this intake was attributed to residential, non-dietary exposure from local agricultural OP uses. Results showed mass balance models can est. OP pesticide exposure within the range measured by biomonitoring. [on SciFinder (R)] 0013-936X integration/ model/ biomonitoring/ data/ organophosphorus/ pesticide/ human/ exposure;/ source/ pathway/ organophosphorus/ pesticide/ human/ exposure/ Salinas/ Valley/ California;/ urinary/ biomarker/ organophosphorus/ pesticide/ human/ exposure/ Salinas/ Valley/ California

856. Mcwhinney, D. R., Chang, Y. F., Young, R., and Struck, D. K. (1992). Separable Domains Define Target Cell Specificities of an Rtx Hemolysin From Actinobacillus Pleuropneumoniae. *J bacteriol* 174: 291-297.

Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The leukotoxin (LktA) from Pasteurella haemolytica and the hemolysin (AppA) from Actinobacillus pleuropneumoniae are members of a highly conserved family of cytolytic proteins by gram-negative bacteria. Despite the extensive homology between these gene products, LktA is specific for ruminant leukocytes while AppA, like other hemolysins, lyses erythrocytes and a variety of nucleated cells, including ruminant leukocytes. Both proteins require activation facilitate by the product of an accessory re toxins by recombining domains to ltkA and appA and have examined the target cell specificities of the resulting hybrid proteins. Our results indicate that the leukocytic potential of AppA, like that of LktA, maps to the C-terminal half of the protein and is physically separable from the region specifying erythrocytes lysis. As a consequence, we were able to construct an RTX toxin capable of lysing erythrocytes but not leukocytes. The specificity of one hybrid was found to be depe
MESH HEADINGS: ANIMALS
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: COMPARATIVE STUDY
MESH HEADINGS: AMINO ACIDS
MESH HEADINGS: PEPTIDES
MESH HEADINGS: PROTEINS
MESH HEADINGS: BLOOD CELLS/ULTRASTRUCTURE
MESH HEADINGS: BLOOD CELLS/PHYSIOLOGY
MESH HEADINGS: BLOOD CELLS/CHEMISTRY
MESH HEADINGS: HEMATOPOIETIC SYSTEM/PHYSIOLOGY
MESH HEADINGS: LYMPH/CHEMISTRY
MESH HEADINGS: LYMPH/PHYSIOLOGY
MESH HEADINGS: LYMPHATIC SYSTEM/PHYSIOLOGY
MESH HEADINGS: RETICULOENDOTHELIAL SYSTEM/PHYSIOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: BACTERIA/PHYSIOLOGY
MESH HEADINGS: BACTERIA/METABOLISM
MESH HEADINGS: BACTERIA/GENETICS
MESH HEADINGS: VIRUSES/GENETICS

MESH HEADINGS: BACTERIA
MESH HEADINGS: ENTEROBACTERIACEAE
KEYWORDS: Cytology and Cytochemistry-Animal
KEYWORDS: Comparative Biochemistry
KEYWORDS: Biochemical Studies-Proteins
KEYWORDS: Blood
KEYWORDS: Blood
KEYWORDS: Toxicology-General
KEYWORDS: Physiology and Biochemistry of Bacteria
KEYWORDS: Genetics of Bacteria and Viruses
KEYWORDS: Medical and Clinical Microbiology-Bacteriology
LANGUAGE: eng

857. Mel'nikov, N. N. (1993). Pesticides and Environment. Organic Phosphorus Compounds. *Agrokhimiya* 0: 99-117.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW REVIEW CHERRY APPLE MANDARIN PHOSPHORIC ACID DERIVATIVES PHOSALONE DIMETHOATE FENITROTHION PHOSMET MALATHION PHOSPHANATE INSECTICIDES
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS, MEDICINAL
MESH HEADINGS: PLANTS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Rosaceae
KEYWORDS: Rutaceae
LANGUAGE: rus

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Chem Codes: EcoReference No.: 37931
Chemical of Concern:
CBZ,OXD,ADC,BS,DCTP,MOM,FTT,MCB,PSM,FBM,THM,PPHD,DDT,MXC,EN,HCCH,AND,DLD,HPT,FNT,CF,DZ,MUP,ETN,Nalcd,MCB,CBL,DS,PRT,DDVP,DMT,MP,DEM,TCF,AZ,CMPH,MLN,MLO,PRN,MPO,ES,DCF Rejection Code: REVIEW.

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Chem Codes: EcoReference No.: 37930
Chemical of Concern:
BZO,ABT,DS,CMPH,CBL,ETN,FNT,MLN,MVP,PRN,PHSL,PPHD,SFT,Naled,MOM,DEM,CPY,MLO,PRT,DMT,MPO,DDVP,PSM,MP,AZ,DZ,DEM,TCF,FNTH,PCP Rejection Code: REVIEW.

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Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

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Database: CAPLUS
Accession Number: AN 1965:492856
Chemical Abstracts Number: CAN 63:92856
Section Code: 72
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Soils (Imidan decompn. in)
CAS Registry Numbers: 732-11-6 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with N-(mercaptomethyl)phthalimide) (decompn. in soil) The disappearance rate of Imidan was studied in a sandy loam and a loam soil. The effect of soil compn., moisture, pH, and microorganisms on persistence was also evaluated. Residues of Imidan and its thiol analog, Imidoxon, were detd. according to a phosphomolybdate colorimetric method. Imidan degraded very rapidly in both soils. The time for 50% degradation in a sandy loam soil and a loamy soil was in the range of 3-19 days. The major factor assocd. with degradation of Imidan in soils appears to be spontaneous hydrolysis. [on SciFinder (R)] 0022-0493

861. Mente, Donald Charles (19881109). All aqueous formulations of organophosphorus pesticides. 8 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1989:110162
Chemical Abstracts Number: CAN 110:110162
Section Code: 5-6
Section Title: Agrochemical Bioregulators
Coden: EPXXDW
Index Terms: Surfactants (black copolymers, for pesticide emulsions); Pesticides (formulation of, as aq. emulsion)
CAS Registry Numbers: 55-38-9; 78-34-2; 97-17-6; 121-75-5 (Malathion); 122-14-5; 299-84-3; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 2921-88-2; 3700-89-8; 4824-78-6; 5823-17-6; 119293-80-0 Role: PROC (Process) (formulation of, as aq. emulsion); 106392-12-5 (Pluronic P103)

Role: BIOL (Biological study) (surfactant, for aq. pesticide emulsions)
Reg.Pat.Tr.Des.States: Designated States R: DE, FR, GB, IT.
Patent Application Country: Application: EP
Priority Application Country: US
Priority Application Number: 87-47035
Priority Application Date: 19870505 An aq., stable, homogeneous emulsion of an organophosphorus pesticide, free of org. solvents, comprises a copolymer surfactant and urea. The surfactant is a nonionic block, heteric or heteric/block copolymer surfactant Y[C3H6O)n(C2H4O)mH]x[Y = C1-6 org. residue; x >=1 (no. of reactive H atoms); n has a value such that the mol. wt. of C3H6O is 900-1200; m has a value such that the oxyethylene chains constitute 10-80 wt. % of the oxyethylene]. A formulation comprised malathion 65.0, urea 8.0, Pluronic P103 6.5, and water 100%. The formulation was stable for several weeks. It formed stable emulsions when dild. with water at any level. [on SciFinder (R)] A01N025-04. A01N057-16; A01N057-14; A01N057-12. A01N057-16; A01N057-14; A01N057-12; A01N047-28; A01N057-14; A01N057-12; A01N047-28; A01N057-12; A01N047-28. organophosphorus/ pesticide/ emulsion

862. Meo, A. A. and Khan, M. A. (2004). Pollen Morphology as an Aid to the Identification of Scorzonera (Cichorieae-Compositae) From Pakistan. *Pakistan Journal of Botany, 36 (4) pp. 701-710, 2004*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0556-3321
Abstract: Pollen morphological characters of 5 species of Scorzonera have been investigated from Pakistan by light microscopy. Pollen grains are usually radially symmetrical, isopolar, prolate-spheroidal in equatorial view, semi-angular to inter-semi-angular in polar view, trizonocolporate, non-lacunate and echinate. Pollen characters such as size, shape, colpi and exine thickness, and aperture type are found considerably important. Scorzonera hondae can be distinguished due to its sub-prolate shape whereas S. picridioides has oblate-spheroidal subprolate P/E ratio (0.95). The pollen spine character is a diagnostic character in this genus. S. hondae has the highest spine length (4.8 (mu)m) and S. laciniata can be distinguished due to lowest spine length 2.5 (mu)m. There is a great range of variation in exine thickness which has proved useful at specific level. On the basis of exine thickness 3 groups viz. Group I: S. virgata, S. laciniata, Group II: S. picridioides, Group III: S. ammophila, S. hondae are recognized.
54 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Pakistan
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Subfile: Plant Science

863. Mercade, Josep V. and Montoya, Angel (1997). A monoclonal antibody-based ELISA for the analysis of azinphos-methyl in fruit juices: The Second Workshop on Biosensors and Bioanalytical Techniques in Environmental Analysis. *Analytica Chimica Acta* 347: 95-101.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

A monoclonal antibody-based enzyme-linked immunosorbent assay (ELISA) was developed for the quantification of azinphos-methyl . The competitive ELISA was performed in the antibody-coated format using a homologous peroxidase-hapten conjugate as enzyme tracer. For standards, the I50 value of the ELISA was around 3 ng ml-1 with a detection limit of 0.4 ng ml-1. On the basis of previous crossreactivity studies, multianalyte standards containing the three pesticides recognized by the antibody (azinphos-methyl, azinphos-ethyl, and phosmet) were assayed. Results

showed that the total content of these analytes can be accurately determined using a unique azinphos-methyl standard curve, as long as the three compounds are in equimolar amounts. The suitability of the ELISA for pesticide quantification in orange and apple juices was also studied. The practical detection limit in juice samples was 100 ng ml-1. Therefore, samples were spiked with azinphos-methyl in the 100-1000 ng ml-1 range and directly analyzed without any pretreatment other than a 1/100 dilution in PBS to minimize matrix effects. Under these conditions, good accuracy and precision were obtained, with mean recoveries of 122.7% and 110.5%, and mean coefficients of variation of 14.5% and 15.1%, for orange and apple juices, respectively. No false positives were found. Azinphos-methyl/ Azinphos-ethyl/ Phosmet/ Immunoassay/ Pesticide/ Insecticide/ Food analysis
http://www.sciencedirect.com/science/article/B6TF4-3SHC8DT-F/2/24f49697296602352f855fb0a0f470dc

864. Mercader, Josep V. and Montoya, Angel (1999). Development of monoclonal ELISAs for azinphos-methyl. 1. Hapten synthesis and antibody production. *Journal of Agricultural and Food Chemistry* 47: 1276-1284.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:117066
Chemical Abstracts Number: CAN 130:233560
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 15, 28
Document Type: Journal
Language: written in English.
Index Terms: Immunoassay (enzyme-linked immunosorbent assay; haptens and antibodies for azinphos-Me and phosmet ELISA); Haptens Role: ARU (Analytical role, unclassified), SPN (Synthetic preparation), ANST (Analytical study), PREP (Preparation) (haptens and antibodies for azinphos-Me and phosmet ELISA); Antibodies Role: BPN (Biosynthetic preparation), BIOL (Biological study), PREP (Preparation) (monoclonal; haptens and antibodies for azinphos-Me and phosmet ELISA)
CAS Registry Numbers: 86-50-0 (Azinphos-Methyl) Role: ANT (Analyte), ANST (Analytical study) (haptens and antibodies for azinphos-Me and phosmet ELISA); 732-11-6P (Phosmet) Role: ARU (Analytical role, unclassified), SPN (Synthetic preparation), ANST (Analytical study), PREP (Preparation) (haptens and antibodies for azinphos-Me and phosmet ELISA); 107-96-0P; 17689-17-7P (6-Mercaptohexanoic acid); 24310-41-6P; 221334-83-4P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (intermediate in prepn. of hapten for azinphos-Me and phosmet ELISA); 3130-75-4P; 3339-73-9P; 4443-26-9P; 91570-07-9P; 97609-01-3P; 113939-90-5P; 170033-08-6P; 221334-26-5P; 221334-33-4P; 221334-38-9P; 221334-51-6P Role: ARU (Analytical role, unclassified), SPN (Synthetic preparation), ANST (Analytical study), PREP (Preparation) (prepn. as hapten for azinphos-Me and phosmet ELISA); 56-12-2 (4-Aminobutanoic acid); 60-32-2 (6-Aminohexanoic acid); 90-16-4 (1,2,3-Benzotriazin-4(3H)-one); 107-95-9 (b-Alanine); 5332-26-3 (N-(Bromomethyl)phthalimide); 22509-74-6; 28230-32-2 Role: RCT (Reactant), RACT (Reactant or reagent) (reactant in prepn. of hapten for azinphos-Me and phosmet ELISA)
Citations: Abad, A; J Agric Food Chem 1994, 42, 1818
Citations: Abad, A; J Agric Food Chem 1997, 45, 3694
Citations: Abad, A; J Agric Food Chem 1997, 45, 1486
Citations: Carlson, R; Immunoanalysis of Agrochemicals Emerging Technologies ACS Symposium Series 586 1995, 140
Citations: Centeno, E; Int Arch Allergy Appl Immunol 1970, 37, 1
Citations: Edge, W; J Appl Ecol 1996, 33, 269
Citations: Ellis, R; Immunoassays for Residue Analysis Food Safety ACS Symposium Series 621, 44

Citations: Ercogovich, C; Pesticide Identification at the Residue Level Advances in Chemistry Series 104 1971, 162
Citations: Eremin, S; Immunoanalysis of Agrochemicals Emerging Technologies ACS Symposium Series 586 1995, 223
Citations: Fasciglione, G; Hybridoma 1996, 15, 1
Citations: Gee, S; J Agric Food Chem 1988, 36, 863
Citations: Harrison, R; Immunoassays for Trace Chemical Analysis ACS Symposium Series 451 1991, 14
Citations: Hayes, M; J AOAC Int 1996, 79, 529
Citations: Jones, W; Food Agric Immunol 1995, 7, 9
Citations: Kaufman, B; J AOAC Int 1995, 78, 1079
Citations: Langone, J; Res Commun Pathol Pharmacol 1975, 10, 163
Citations: Manclus, J; J Agric Food Chem 1996, 44, 3703
Citations: Manclus, J; J Agric Food Chem 1996, 44, 4052
Citations: Mercader, J; J Agric Food Chem 1995, 43, 2789
Citations: Meulenberg, E; Environ Sci Technol 1995, 29, 553
Citations: Nefkens, G; Recl Trav Chim Pays Bas 1960, 79, 688
Citations: Nowinski, R; Virology 1979, 93, 111
Citations: Rajkowski, K; Steroids 1977, 29, 701
Citations: Rohrbaugh, W; J Agric Food Chem 1976, 24, 713
Citations: Schlaeppi, J; J Agric Food Chem 1992, 40, 1093
Citations: Schneider, P; J Agric Food Chem 1992, 40, 525
Citations: Sherma, J; J AOAC Int 1997, 80, 283
Citations: Sherry, J; Chemosphere 1997, 34, 1011
Citations: Skerritt, J; Immunoassays for Residue Analysis Food Safety ACS Symposium Series 621 1996, 124
Citations: Szurdoki, F; J Environ Sci Health 1996, B31, 451
Citations: Tanner, D; Ecotoxicol Environ Saf 1995, 32, 184
Citations: Ten Hoeve, W; Bioconjugate Chem 1997, 8, 257
Citations: Wortberg, M; J Agric Food Chem 1996, 44, 2210 The development of monoclonal antibody-based ELISA for azinphos-Me is described. A panel of haptens was synthesized for immunoconjugate prepn., and a series of haptens for heterologous, coating or tracer, conjugates was also prepd. Hapten synthesis was based on a strategy in which only a fragment of the whole target mol. was present (fragmentary haptens). From immunized mice, a set of monoclonal antibodies was obtained and ELISA sensitivities were assayed in different formats. Affinities estd. as I50 values in the low nanomolar range for azinphos-Me and phosmet were obsd. for several monoclonal antibodies in the conjugate-coated format and in the antibody-coated format under nonoptimized assay conditions. [on SciFinder (R)] 0021-8561 ELISA/ azinphos/ methyl/ phosmet/ hapten/ antibody

865. Mercader, Josep V. and Montoya, Angel (1999). Development of Monoclonal ELISAs for Azinphos-methyl. 2. Assay Optimization and Water Sample Analysis. *Journal of Agricultural and Food Chemistry* 47: 1285-1293.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:117067
Chemical Abstracts Number: CAN 130:233561
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 15
Document Type: Journal
Language: written in English.
Index Terms: Waters (detn. of Azinphos-Me in water by ELISA); Immunoassay (enzyme-linked immunosorbent assay; detn. of Azinphos-Me in water by ELISA)

CAS Registry Numbers: 86-50-0 (Azinphos-methyl.) Role: ANT (Analyte), ANST (Analytical study) (detn. of Azinphos-Me in water by ELISA)
Citations: Abad, A; J Agric Food Chem 1997, 45, 1495
Citations: Aga, D; Immunochemical Technology for Environmental Applications 1997, 1
Citations: Ahmad, N; J AOAC Int 1995, 78, 1450
Citations: Berger, B; J Chromatogr A 1997, 769, 338
Citations: Brady, J; Immunoanalysis of Agrochemicals Emerging Technologies ACS Symposium Series 586 1995, 266
Citations: Hayes, M; New Frontiers in Agrochemical Immunoassay 1995, 237
Citations: Hernandez, F; Chromatographia 1996, 42, 151
Citations: Hogendoorn, E; J Chromatogr A 1996, 754, 49
Citations: Jones, G; J Immunol Methods 1994, 177, 1
Citations: Kramer, P; J Agric Food Chem 1994, 42, 934
Citations: Lacorte, S; J Chromatogr A 1996, 725, 85
Citations: Lacorte, S; Environ Sci Technol 1995, 29, 2834
Citations: Lee, N; J Agric Food Chem 1995, 43, 1730
Citations: Lucas, A; Food Agric Immunol 1995, 7, 227
Citations: Manclus, J; J Agric Food Chem 1996, 44, 3710
Citations: Manclus, J; J Agric Food Chem 1996, 44, 4063
Citations: Mercader, J; J Agric Food Chem 1999, 47, XXXX
Citations: Meulenberg, E; Environ Sci Technol 1995, 29, 553
Citations: Mihaliak, C; Immunoanalysis of Agrochemicals Emerging Technologies ACS Symposium Series 586 1995, 288
Citations: Neidert, E; J AOAC Int 1996, 79, 549
Citations: Reeves, S; Food Agric Immunol 1996, 8, 137
Citations: Roy, R; J AOAC Int 1997, 80, 883
Citations: Stanker, L; J Agric Food Chem 1989, 37, 834
Citations: Szurdoki, F; J Environ Sci Health 1996, B31, 451
Citations: Tauler, R; J Chromatogr A 1996, 730, 177
Citations: Williams, K; Int J Environ Chem 1996, 65, 149
Citations: Wortberg, M; J Agric Food Chem 1996, 44, 2210 Two ELISAs for azinphos-Me have been optimized and characterized. Both ELISAs are based on monoclonal antibodies produced from an immunogen with a hapten contg. a phthalimido moiety and on protein conjugates of heterologous ligands contg. a 1,2,3-benzotriazine group. Assay I was performed in the conjugate-coated ELISA format and assay II in the antibody-coated format. Several physicochem. factors (ionic strength, pH, incubation times, and Tween 20 and BSA concns.) that influence assay performance were studied and optimized. Both monoclonal immunoassays highly cross-reacted with azinphos-Et and phosmet. Both assays were applied to the anal. of azinphos-Me in spiked real water samples. For assay I the sensitivity, estd. as the I50 value, was 0.40 nM, with a practical working range between 0.10 and 1.75 ng/mL and a limit of detection of 0.05 ng/mL. For assay II the sensitivity was 1.01 nM, with a practical working range between 0.32 and 2.54 ng/mL and a limit of detection of 0.08 ng/mL. [on SciFinder (R)] 0021-8561 ELISA/ azinphos/ methyl/ insecticide/ water

866. Mercader, Josep V. and Montoya, Angel (1997). A monoclonal antibody-based ELISA for the analysis of azinphos-methyl in fruit juices. *Analytica Chimica Acta* 347: 95-101.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1997:456171
Chemical Abstracts Number: CAN 127:160751
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal

Language: written in English.
Index Terms: Immunoassay (enzyme-linked immunosorbent assay; monoclonal antibody-based ELISA for the anal. of azinphos-Me in fruit juices); Apple juice; Orange juice (monoclonal antibody-based ELISA for the anal. of azinphos-Me in fruit juices); Antibodies Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (monoclonal; ELISA for the anal. of azinphos-Me in fruit juices)
CAS Registry Numbers: 86-50-0 (Azinphos-methyl); 732-11-6 (Phosmet); 2642-71-9 (Azinphos-ethyl) Role: ANT (Analyte), ANST (Analytical study) (monoclonal antibody-based ELISA for the anal. of azinphos-Me in fruit juices)
Citations: 1) Heldman, E; FEBS Lett 1985, 180, 243
Citations: 2) Torres, C; J Chromatogr A 1996, 719, 95
Citations: 3) Shearer, P; J Econom Entomol 1994, 87, 1450
Citations: 4) Duan, J; J Econom Entomol 1995, 88, 117
Citations: 5) Meyers, S; Arch Environ Contam Toxicol 1994, 26, 478
Citations: 6) Barcelo, D; J Chromatogr 1993, 643, 117
Citations: 7) Newman, A; Environ Sci Technol 1995, 29, 324A
Citations: 8) Neidert, E; J AOAC Int 1996, 79, 549
Citations: 9) Hernandez, F; Chromatographia 1996, 42, 151
Citations: 10) Vallejo, R; J Agric Food Chem 1982, 30, 572
Citations: 11) Meulenberg, E; Environ Sci Technol 1995, 29, 553
Citations: 12) Manclus, J; Anal Chim Acta 1995, 311, 341
Citations: 13) Manclus, J; J Agric Food Chem 1996, 44, 4063
Citations: 14) Hill, A; J Agric Food Chem 1994, 42, 2051
Citations: 15) Abad, A; Anal Chim Acta 1995, 311, 365
Citations: 16) Haas, J; Proc Soc Exp Biol Med 1968, 129, 546
Citations: 17) Mercader, J; J Agric Food Chem 1995, 43, 2789
Citations: 18) Jones, W; Food Agric Immunol 1995, 7, 9
Citations: 19) Langone, J; Res Commun Pathol Pharmacol 1975, 10, 163
Citations: 20) Fare, T; Bull Environ Contam Toxicol 1996, 57, 367
Citations: 21) Oubina, A; Environ Sci Technol 1996, 30, 513 A monoclonal antibody-based ELISA was developed for the quantification of azinphos-Me (O,O-di-Me S-[(4-oxo-1,2,3-benzotriazin-3-yl)methyl]phosphorodithioate). The competitive ELISA was performed in the antibody-coated format using a homologous peroxidase-hapten conjugate as enzyme tracer. For stds., the I50 value of the ELISA was around 3 ng mL-1 with a detection limit of 0.4 ng mL-1. On the basis of previous cross-reactivity studies, multianalyte stds. contg. the three pesticides recognized by the antibody (azinphos-Me, azinphos-Et, and phosmet) were assayed. Results showed that the total content of these analytes can be accurately detd. using a unique azinphos-Me std. curve, as long as the three compds. are in equimolar amts. The suitability of the ELISA for pesticide quantification in orange and apple juices was also studied. The practical detection limit in juice samples was 100 ng mL-1. Therefore, samples were spiked with azinphos-Me in the 100-1000 ng mL-1 range and directly analyzed without any pretreatment other than a 1/100 diln. in PBS to minimize matrix effects. Under these conditions, good accuracy and precision were obtained, with mean recoveries of 122.7% and 110.5%, and mean coeffs. of variation of 14.5% and 15.1%, for orange and apple juices, resp. No false positives were found. [on SciFinder (R)] 0003-2670 ELISA/ azinphos/ methyl/ detn/ fruit/ juice

867. Mercader, Josep V., Primo, Jaime, and Montoya, Angel (1995). Production of high-affinity monoclonal antibodies for azinphos-methyl from a hapten containing only the aromatic moiety of the pesticide. *Journal of Agricultural and Food Chemistry* 43: 2789-93.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1995:890866
Chemical Abstracts Number: CAN 123:308560
Section Code: 5-1

Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Antibodies Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (monoclonal, prodn. of high-affinity monoclonal antibodies for azinphos-Me from hapten contg. arom. moiety)
CAS Registry Numbers: 24310-41-6P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (intermediate of azinphos-Me hapten); 118-92-3 (Anthranilic acid); 732-11-6 (Phosmet); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 13593-03-8 (Quinalphos) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (monoclonal antibodies for azinphos-Me cross-reactivity with); 170033-08-6P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. and conjugation with proteins for prodn. of monoclonal antibodies for azinphos-Me); 86-50-0 (Azinphos-methyl) Role: ANT (Analyte), ANST (Analytical study) (prepn. of hapten consisting of arom. moiety for prodn. of monoclonal antibodies for); 90-16-4 (1,2,3-Benzotriazin-4(3H)-one) Role: RCT (Reactant), RACT (Reactant or reagent) (reaction in azinphos-Me hapten synthesis) Monoclonal antibodies have been obtained, for the first time, that recognize azinphos-Me with high affinity. With this aim, the authors synthesized a hapten consisting of only the arom. moiety of the pesticide attached to a spacer arm and terminated by a carboxylic function. This simple strategy keeps the main groups that are characteristic of azinphos, and it can presumably be applied to other organophosphorus pesticides. The immunization of mice with a protein conjugate of this hapten allowed us to obtain several monoclonal antibodies to azinphos-Me. By homologous, competitive indirect ELISA, monoclonal antibodies LIB/MBP-3.1 and LIB/MBP-3.4 showed an I50 of 346 nM (100 mg/L) and 28 nM (9 mg/L), resp., for azinphos-Me. Cross-reactivity studies demonstrated that both antibodies also recognized azinphos-Et. LIB/MBP-3.1 also had some cross-reactivity with quinalphos and phosmet, and LIB/MBP-3.4 recognized phosmet as well as azinphos-Me. [on SciFinder (R)] 0021-8561 azinphos/ methyl/ monoclonal/ antibody/ hapten/ synthesis

868. Mestres, R., Illes, S., Campo, M., and Tourte, J (1977). A multiple residue method for citrus fruits: its technique and some data. 2: 426-9.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1979:202295
Chemical Abstracts Number: CAN 90:202295
Section Code: 17-1
Section Title: Foods
CA Section Cross-References: 5
Document Type: Conference
Coden: 39AWA2
Language: written in English.
Index Terms: Pesticides (detn. of, in citrus fruit, chromatog.); Citrus (pesticides of fruit of, of France)
CAS Registry Numbers: 50-29-3; 55-38-9; 56-38-2; 58-89-9; 60-51-5; 72-54-8; 72-55-9; 86-50-0; 90-43-7; 92-52-4; 115-32-2; 116-29-0; 121-75-5; 122-14-5; 148-79-8; 298-00-0; 319-84-6; 333-41-5; 563-12-2; 732-11-6; 786-19-6; 950-37-8; 19764-43-3 Role: BIOL (Biological study) (of citrus fruit, of France) A multiple residue method providing sufficient cleanup and allowing confirmation by mass fragmentometry consists of an efficient extn. with a mixt. of EtOAc and CH2Cl2 followed by a partition step and occasionally by column chromatog. on Florisil. Examples of application of the method are given with special ref. to P-contg. pesticide residues following field application. Pesticide residues found on citrus fruit samples at the wholesale level in France are given. [on SciFinder (R)] pesticide/ detn/ citrus/ fruit;/ chromatog/ pesticide

869. Meyerdirk, D. E., French, J. V., and Hart, W. G. (1982). Effect of Pesticide Residues on the Natural Enemies of Citrus Mealybug. *Environ.Entomol.* 11: 134-136.

Chem Codes: Chemical of Concern: PSM Rejection Code: MIXTURE.

870. Michael, P. (1995). Biological Control of Redlegged Earth Mite and Lucerne Flea by the Predators Anystis Wallacei and Neomologus Capillatus. *Plant protection quarterly* 10: 55-57.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOXICANT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Anystis wallacei preferred redlegged earth mite and Neomulgus capillatus preferred lucerne flea in the insectary. Feeding tests showed that 100 A. wallacei per square metre can kill 16,000 redlegged earth mites in one pest generation. Two types of field trials were conducted using a novel barrier system. The addition of both predators into ungrazed plots reduced peak pest numbers by more than two thirds, while vegetative and seed yields were more than doubled. Pest numbers were low in mown plots but peak populations of redlegged earth mite and lucerne flea were reduced by 80 and 60% respectively. A. wallacei was reared in field cages for two years at greater densities than naturally occurring in the field. Predators survived in much greater numbers than pests after sprays of common pesticides.
MESH HEADINGS: BEHAVIOR, ANIMAL
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: NUTRITION
MESH HEADINGS: NUTRITIONAL STATUS
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: ANIMAL FEED
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL, BIOLOGICAL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ARTHROPODS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: LEGUMES
MESH HEADINGS: INSECTS
MESH HEADINGS: ARTHROPODS

KEYWORDS: Behavioral Biology-Animal Behavior
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Nutrition-General Studies
KEYWORDS: Toxicology-General
KEYWORDS: Agronomy-Forage Crops and Fodder
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Biological Control
KEYWORDS: Economic Entomology-Integrated Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Invertebrata
KEYWORDS: Leguminosae
KEYWORDS: Collembola
KEYWORDS: Acarina
LANGUAGE: eng

871. Michalzik, B. and Matzner, E. (1999). Dynamics of Dissolved Organic Nitrogen and Carbon in a Central European Norway Spruce Ecosystem. *European Journal of Soil Science, 50 (4) pp. 579-590, 1999*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 1351-0754
Abstract: Dissolved organic nitrogen and carbon (DEC) are significant in the C and N cycle in terrestrial ecosystems. Little is known about their dynamics in the field and the factors regulating their concentrations and fluxes. We followed the fluxes and concentrations of the two in a Norway spruce (Picea abies (L.) Karst.) forest ecosystem in Germany from 1995 to 1997 by sampling at fortnightly intervals. Bulk precipitation, throughfall, forest floor percolates from different horizons and soil solutions from different depths were analysed for major ions, dissolved organic N and Dec. The largest fluxes and concentrations were observed in percolates of the Oi layer, which contain amine N and amine sugar N as the major components. The average ratio of dissolved organic C to N in forest floor percolates corresponded to the C/N ratio of the solid phase. Concentrations and fluxes were highly dynamic with time and decreased with depth. The largest fluxes in forest floor percolates occurred when the snow melted. The concentrations and fluxes of dissolved organic N were significantly correlated with DOC, but the correlation was weak, indicating different mechanisms of release and consumption. The dynamics of dissolved organic N and Dec in forest floor percolates were not explained by pH and ionic strength of the soil solution nor by the water flux, despite large variations in these. Furthermore, the release of these fractions from the forest floor was not related to the quality and amount of throughfall. Concentrations of dissolved organic N in forest floor percolates increased with soil temperature, while temperature effects on Dec were less pronounced, but their fluxes from the forest floor were not correlated with temperature. In the growing season concentrations of both dissolved organic N and C in forest floor percolates decreased with increasing intensity of throughfall. Thus, the average throughfall intensity was more important than the amount of percolate in regulating their concentrations in forest floor percolates. Our data emphasize the role of dissolved organic N and Dec in the N and C cycle of forest ecosystems.
34 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.13.1.6 ENVIRONMENTAL BIOLOGY: Ecology: Interactions with environment
Subfile: Plant Science

872. Miliadis, G. E. and Malatou, P. Th (1997). Monitoring of the pesticide levels in natural waters of Greece. *Bulletin of Environmental Contamination and Toxicology* 59: 917-923.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:773851
Chemical Abstracts Number: CAN 128:39210
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (monitoring of organochlorine, organophosphorus, and triazine pesticides in river and lake water, Greece); Water pollution (river and lake water; monitoring of organochlorine, organophosphorus, and triazine pesticides in river and lake water, Greece)
CAS Registry Numbers: 56-38-2 (Ethyl parathion); 60-51-5 (Dimethoate); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl parathion); 298-01-1 (cis-Mevinphos); 298-02-2 (Phorate); 333-41-5 (Diazinon); 338-45-4 (trans-Mevinphos); 732-11-6 (Phosmet); 919-86-8 (Demeton-S-methyl); 950-37-8 (Methidathion); 1134-23-2 (Cycloate); 1912-24-9 (Atrazine); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos ethyl); 2921-88-2 (Chlorpyrifos); 7287-19-6 (Prometryn); 13194-48-4 (Ethoprop); 13457-18-6 (Pyrazophos); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 29232-93-7 (Methyl Pirimiphos) Role: POL (Pollutant), OCCU (Occurrence) (monitoring of organochlorine, organophosphorus, and triazine pesticides in river and lake water, Greece)
Citations: Albanis, T; Chemosphere 1991, 22(7), 645
Citations: Aplada-Sarlis, P; 16th Panhellenic Chemistry Congress 1995, 614
Citations: Anon; Off J Eur Commun No L 229/11-29
Citations: Greve, P; Pesticide residue analysis WHO/FAO 1984, 281
Citations: Hennior, M; Environmental analysis:techniques, applications and quality assurance 1993, 24
Citations: Lacorte, S; J Chromatogr A 1996, 725, 85
Citations: Miliadis, G; Bull Environ Contam Toxicol 1994, 52, 25
Citations: Miliadis, G; Bull Environ Contam Toxicol 1994, 53, 598
Citations: Moreno, T; Anal Chem 1995, 91, 365
Citations: U S Environmental Protection Agency; Fed Register 1984, 49(209), 198 Monitoring organochlorine, organophosphorus, and triazine pesticides in 80 river and lake samples in Greece by capillary gas chromatog. with electron capture detection or N-P detection following solid phase extn. [on SciFinder (R)] 0007-4861 river/ lake/ pesticide/ pollution/ Greece

873. Miller, C. A. and Van Duijn, C. J. (Similarity Solutions for Gravity-Dominated Spreading of a Lens of Organic Contaminant. *Govt reports announcements & index (gra&i), issue 11, 1994*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: In recent years it has become increasingly evident that numerous aquifers have become contaminated as a result of leaks from storage tanks and accidental spills of gasoline, aviation fuel, chlorinated solvents, and other organic liquids having low solubilities in water. Accordingly, it is important to develop a basic understanding of how an organic liquid (hereafter called oil for simplicity), which is largely immiscible with water, percolates through the soil until it reaches the water table and, in situations where its density is less than water, spreads there. Similarity solutions are developed for gravity-dominated spreading at the water table of a lens of organic liquid largely immiscible with water. Different solutions deal with different mechanisms by which the lens volume decreases with time: dissolution or evaporation, trapping as water invades the region beneath the central part of the lens, and uniform degradation. In the last case, the solution is a special case of the Barenblatt-Pat

KEYWORDS: Water pollution
KEYWORDS: Environmental transport
KEYWORDS: Water table
KEYWORDS: Spreading
KEYWORDS: Organic compounds
KEYWORDS: Foreign technology

874. Mineau, P., Fletcher, M. R., Glaser, L. C., Thomas, N. J. , Brassard, C., Wilson, L. K., Elliott, J. E., Lyon, L. A., Henny, C. J., Bollinger, T., and Porter, S. L. (1999). Poisoning of Raptors With Organophosphorus and Carbamate Pesticides With Emphasis on Canada, U.s. And U.k. *Journal of raptor research* 33: 1-37.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. We reviewed cases of raptor mortality resulting from cholinesterase-inhibiting pesticides. We compiled records from the U.S., U.K. and Canada for the period 1985-95 (520 incidents) and surveyed the relevant literature to identify the main routes of exposure and those products that led to the greatest number of poisoning cases. A high proportion of cases in the U.K. resulted from abusive uses of pesticides (willful poisoning). The proportion was smaller in North America where problems with labele nophosphorus products as avicides and for the topical treatment of livestock appeared to be common routes of intoxication. The use of insecticides in dormant oils also gave rise to exposure that can be lethal or which can debilitate birds and increase their vulnerability. A few pesticides of high toxicity were responsible for the bulk of poisoning cases. Based on limited information, raptors appeared to be more sensitive than other bird species to organophosphorus and carbamate p
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: ANIMALS, WILD
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: ECOLOGY
MESH HEADINGS: NECROSIS/PATHOLOGY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: BIRDS
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ANNELIDA/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: OLIGOCHAETA
MESH HEADINGS: BIRDS
KEYWORDS: General Biology-Conservation
KEYWORDS: Ecology
KEYWORDS: Pathology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Pest Control
KEYWORDS: Chordata
KEYWORDS: Invertebrata
KEYWORDS: Oligochaeta
KEYWORDS: Falconiformes
LANGUAGE: eng

875. Mirkhaitov, T. and Ikramov, L. T. (Determination of the Phosalone and Phthalophos in the Forensic-Chemical Analysis of Biological Materials. *Farmatsiya22(6): 64-67* 1973.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB Methods are described for the detection and quantitative determination of phosalone and phthalophos phosmet in biological materials for forensic analyses. Extraction from the homogenized samples is best done by means of ether at pH 5. The rates of recovery after three subsequent extractions are 41% for phthalophos and 48% for phosalone. For qualitative determination the samples are transferred in benzene and cleaned on alumina and silica gel layer, after which identification is possible on KSK silica gel layer by means of bromphenol blue with acetone and silver nitrate, and of acetic acid. For quantitative determination, the dehydrated samples are mineralized by means of concentrated nitric and sulfuric acids, after which phthalophos is determined by means of alcoholic saturated solution of silver nitrate, mercury dibromide, or mercury diiodide. Phosalone is determined by means of alcoholic solution of silver nitrate, mercury dichloride, or mercury diiodide. The limit of the chromatographic detection amounts to 20 mug per 100 g for phosalone and to 30 mug per 100 g for phthalophos. The sensitivity of the quantitative determination is 1 mg for phosalone and 2 mg for phthalophos in 100 g biological material.
LANGUAGE: rus

876. Mirkhaitov, T. and Ikramov, L. T. (Extraction of Phosalone and Phthalophos From Aqueous Solutions by Organic Solvents as a Function of Ph of the Medium. *Uzb. Khim. Zh. 18(1): 32-35* 1974..
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. The extraction of phosalone and phthalophos from aqueous solutions for subsequent colorimetric determination by the phosphomolybdenum blue method was studied at different pH values. Phosalone was extracted with chloroform, dichloroethane, ethyl ether, n-butanol, benzene, and toluene from both acid and alkaline solutions. However, it was not extracted by petroleum ether. The rate of extraction was highest, with 85-95%, at pH 1-5, and 94% at pH 1. Petroleum ether was found to be best for the extraction of phthalophos. The rate of extraction was 95% at pH 1 and 12% at pH 11.
LANGUAGE: rus

877. Mirkhaitov, T. and Ikramov, L. T. ([Isolation, Detection and Determination of Phthalophos in Biological Objects]. *Sud med ekspert. 1973 apr-jun; 16(2):34-6. [Sudebno-meditsinskaia ekspertiza]: Sud Med Ekspert*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, HUMAN HEALTH.

MESH HEADINGS: Animals
MESH HEADINGS: Chromatography, Thin Layer
MESH HEADINGS: Colorimetry
MESH HEADINGS: Humans
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Indoles/isolation &amp
MESH HEADINGS: purification
MESH HEADINGS: Insecticides/*isolation &amp
MESH HEADINGS: purification
MESH HEADINGS: Intestines/analysis
MESH HEADINGS: *Organothiophosphorus Compounds
MESH HEADINGS: Solvents
MESH HEADINGS: Stomach/analysis
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Izolirovanie, obnaruzhenie i opredelenie ftalofosa v biologicheskikh ob"ektakh.

878. Mirkhaitov, T. and Ikramov, L. T. ([New Qualitative Reactions for the Detection of Phozalon and Phthalophos]. *Sud med ekspert. 1970 jan-mar; 13(1):29-32. [Sudebno-meditsinskaia ekspertiza]: Sud Med Ekspert*.

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

MESH HEADINGS: Forensic Medicine
MESH HEADINGS: Insecticides/*analysis
MESH HEADINGS: Methods
MESH HEADINGS: Microchemistry
MESH HEADINGS: Phosphates/*analysis
MESH HEADINGS: USSR
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Novye kachestvennye reaktsii obnaruzheniia fozalona i ftalofosa.

879. Mirkhaitov, T. and Ikromov, L. T. (Forensic Determination of Phosalone and Phthalophos in Biological Materials. *Farmatsiya22(6):64-67* 1973.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. A method for the extraction, cleanup, identification, and quantitative determination of phosaline and phthalophos (phosmet) in biological materials as encountered in forensic practice is described. Threefold extraction with ether at pH 5 permits recovery of up to 41% of phthalophos and up to 48% of phosalone. The extract is transferred into benzene for chromatographic cleanup on alumina and silicagel. Following elution with benzene, the dry residue is dissolved in alcohol for chromatographic identification on a silicagel layer, using chloroform as a solvent, and bromophenol blue with acetic acid for the visualization of the tracer. Another part of the eluate is evaporated, and the dry residue is mineralized with concentrated nitric acid and sulfuric acid for the quantitative identification of phthalophos and phosalone by a photocolorimetric method on the basis of the formation of phosphomolybdic blue, or by other known methods. The sensitivity of the quantitative determination amounts to 1 mg for phosalone, and 2 mg for phthalophos in 100 g sample.
LANGUAGE: rus

880. Mishra, Nirankar N., Pedersen, Joel A., and Rogers, Kim R (2002). Highly sensitive assay for anticholinesterase compounds using 96 well plate format. *ACS Symposium Series* 806: 289-306.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2002:132172
Chemical Abstracts Number: CAN 136:314618
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 4, 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (carbamate; highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); Insecticides (organophosphorus; highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); Buffers (phosphate-buffered saline; in highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); Organic compounds Role: ANT (Analyte), ANST (Analytical study) (phosphorus-contg., insecticides; highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); Gelatins Role: ARU (Analytical role, unclassified), DEV (Device component use), ANST (Analytical study), USES (Uses) (stabilizing agent; in highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.)
CAS Registry Numbers: 732-11-6 (Phosmet); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-

38-2 (Parathion); 60-51-5 (Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester); 86-50-0 (Phosphorodithioic acid, O,O-dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] ester); 97-17-6; 121-75-5 (Butanedioic acid, [(dimethoxyphosphinothioyl)thio]-, diethyl ester); 311-45-5 (Phosphoric acid, diethyl 4-nitrophenyl ester); 333-41-5 (Phosphorothioic acid, O,O-diethyl O-[6-methyl-2-(1-methylethyl)-4-pyrimidinyl] ester); 1113-02-6 (Dimethoate-oxon); 1634-78-2 (Maloxon); 2921-88-2 (Phosphorothioic acid, O,O-diethyl O-(3,5,6-trichloro-2-pyridinyl) ester); 5598-15-2 (Chlorpyrifos-oxon); 13071-79-9 (Phosphorodithioic acid, S-[[(1,1-dimethylethyl)thio]methyl] O,O-diethyl ester) Role: ANT (Analyte), ANST (Analytical study) (highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); 9000-81-1 (Esterase, acetyl choline) Role: ARG (Analytical reagent use), DEV (Device component use), ANST (Analytical study), USES (Uses) (highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); 7647-14-5 (Sodium chloride (NaCl); 26628-22-8 (Sodium azide) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (in highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); 50-99-7 (D-Glucose); 69-78-3 (5,5'-Dithiobis[2-nitrobenzoic acid]); 99-20-7 (D(+)-Trehalose); 101-26-8 (Pyridostigmine bromide); 114-80-7 (Neostigmine bromide); 6050-81-3 (Acetylthiocholine chloride) Role: ARU (Analytical role, unclassified), DEV (Device component use), ANST (Analytical study), USES (Uses) (in highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); 7723-14-0D (Phosphorus) Role: ANT (Analyte), ANST (Analytical study) (insecticides; highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); 64-17-5 (Ethanol); 67-56-1 (Methanol); 110-54-3 (Hexane) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (solvent; highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.); 7726-95-6 (Bromine) Role: ARG (Analytical reagent use), DEV (Device component use), ANST (Analytical study), USES (Uses) (thion oxidn. to oxon form by; in highly sensitive gelatin film-stabilized acetylcholinesterase 96-well plate format assay for anticholinesterase compds.)

Citations: 1) Rogers, K; Trends Anal Chem 1995, 14, 289
Citations: 2) US Environmental Protection Agency; Science policy on the use of data on cholinesterase inhibition 1998
Citations: 3) National Institute for Occupational Safety and Health; Worker Health Chartbook 2000, 200-127
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Citations: 5) O'Brien, R; Toxic Phosphorus Esters 1960
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Citations: 11) Marty, J; Anal Chim Acta 1995, 311, 265
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Citations: 17) Main, A; Biology of Cholinergic Function 1976
Citations: 18) Carr, R; Toxicol Appl Pharmacol 1996, 139, 365
Citations: 19) Amitai, G; Biochem Pharmacol 1998, 56, 293
Citations: 20) Kumaran, S; Anal Biochem 1992, 200, 187
Citations: 21) Marty, J; Electroanal 1992, 4, 249
Citations: 22) Skladal, P; Anal Chim Acta 1992, 269, 281
Citations: 23) Gunther, A; Anal Chim Acta 1995, 300, 117 The rapid and sensitive detection of organophosphorus insecticides using a 96 well plate format is reported. Several features of this assay make it attractive for development as a lab.-based or field screening assay. Acetylcholinesterase (AChE) was stabilized in a gelatin film. The remarkable properties of the

dry immobilized AChE prepn. include its stability to prolonged storage at room temp. as well as its stability to short-term elevated temps. (60 Deg). The enzyme could be maintained in dry gel form for 365 days at room temp. without substantial loss of activity. The absorbance assay used to measure enzyme activity was evaluated using several solvent systems including water, phosphate buffer, hexane, methanol, and ethanol. The microwell assay includes a procedure to oxidize less potent P=S organophosphorus compds. to their more inhibitory oxon forms. The use of this assay to analyze field samples contaminated with mixts. of organophosphorus insecticides is also reported. [on SciFinder (R)] 0097-6156 anticholinesterase/ compd/ highly/ sensitive/ assay;/ acetylcholinesterase/ gelatin/ film/ well/ plate/ format/ anticholinesterase/ compd/ assay;/ organophosphorus/ insecticide/ detection/ acetylcholinesterase/ gelatin/ film/ well/ plate/ format;/ carbamate/ insecticide/ detection/ acetylcholinesterase/ gelatin/ film/ well/ plate/ format

881. Misra, J. C. and Singh, S. I. (1985). Distribution of stresses in the left ventricular wall of the intact heart. *Bulletin of Mathematical Biology* 47: 53-70.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

The left ventricle is modelled as a prolate spheroid of viscoelastic material with an aim to demonstrate the qualitative effects of anistropy and nonhomogeneity in the calculation of intact ventricular wall stresses. The pericardial pressure is accounted for in the analysis and an attempt is made to examine to what extent this influences the ventricular stresses. Numerical results are also obtained by computing the analytical expressions derived through the analysis.
http://www.sciencedirect.com/science/article/B6WC7-4GP24Y5-5/2/19c75dd6a340408fc03fe62cda41ab17

882. Miyake, Y., Koji, K., Matsuki, H., Tajima, R., and Ono, M (1999). Fate of agrochemical residues, associated with malt and hops, during brewing. *Journal of the American Society of Brewing Chemists* 57: 46-54.
Chem Codes: Chemical of Concern: PSM Rejection Code: YEAST.

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Database: CAPLUS
Accession Number: AN 1999:315503
Chemical Abstracts Number: CAN 131:87036
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Solid wastes; Solid wastes (brewing; detn. and fate of pesticides assocd. with malt and hops); Pesticides (carbamate; detn. of agrochem. residues in beer and fate of pesticides assocd. with malt and hops during brewing); Pyrethrins Role: ANT (Analyte), BPR (Biological process), BSU (Biological study, unclassified), POL (Pollutant), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence), PROC (Process) (detn. of agrochem. residues in beer and fate of pesticides assocd. with malt and hops during brewing); Food analysis (detn. of agrochem. residues in beer, wort, and various byproducts during brewing); Beer; Pesticides (detn. of agrochem. residues in beer, wort, and various byproducts during brewing and prediction of potential for carryover into beer); Brewing; Food contamination; Hop; Malt (fate of pesticides assocd. with malt and hops during brewing and prediction of potential for carryover into beer); Pesticides (organochlorine; detn. of agrochem. residues in beer and fate of pesticides assocd. with malt and hops during brewing); Pesticides (organophosphorus; detn. of agrochem. residues in beer and fate of pesticides assocd. with malt and hops during brewing); Brewing; Brewing (solid wastes; detn. and fate of pesticides assocd. with malt and hops); Barley (spent grains; detn. and fate of pesticides assocd. with malt and hops during brewing); Brewers' yeast (spent; detn. and fate of pesticides assocd. with malt and hops during brewing)
CAS Registry Numbers: 50-29-3 (DDT); 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor);

76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 119-12-0 (Pyridaphenthion); 133-06-2 (Captan); 309-00-2; 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 584-79-2 (Allethrin); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1129-41-5 (MTMC); 1563-66-2 (Carbofuran); 1646-87-3 (Aldicarb-sulfoxide); 1646-88-4 (Aldicarb-sulfone); 1836-77-7 (Chlornitrofen); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2164-08-1 (Lenacil); 2274-67-1 (Dimethylvinphos); 2310-17-0 (Phosalone); 2425-10-7 (MPMC); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2655-14-3 (XMC); 3811-49-2 (Dioxabenzofos); 5598-13-0; 6988-21-2 (Dioxacarb); 7292-16-2 (Propaphos); 7786-34-7 (Mevinphos); 12407-86-2 (Trimethacarb); 13067-93-1 (Cyanofenphos); 13194-48-4 (Ethoprophos); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 21087-64-9 (Metribuzine); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 24017-47-8 (Triazophos); 25057-89-0 (Bentazone); 26087-47-8 (Iprobenfos); 28249-77-6 (Thiobencarb); 30043-49-3 (Ethidimuron); 30864-28-9 (Methacrifos); 31120-85-1; 32809-16-8 (Procymidone); 34643-46-4 (Prothiofos); 34681-23-7 (Butoxycarboxim); 36335-67-8 (Butamifos); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethaline); 50471-44-8 (Vinclozolin); 51218-49-6 (Pretilachlor); 52315-07-8 (Cypermethrin); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 57018-04-9 (Tolclofos methyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 66332-96-5 (Flutolanil); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69409-94-5 (Fluvalinate); 73250-68-7 (Mefenacet); 74115-24-5 (Clofentezine); 79538-32-2 (Tefluthrin); 85785-20-2 (Esprocarb); 87130-20-9 (Diethofencarb); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 96489-71-3 (Pyridaben); 98886-44-3 (Fosthiazate); 119168-77-3 (Tebufenpyrad) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (detn. of agrochem. residues in beer); 62-73-7 (Dichlorvos); 115-32-2 (Dicofol); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 319-84-6 (a-BHC); 1071-83-6 (Glyphosate); 1085-98-9 (Dichlofluanid); 2425-06-1 (Captafol); 2921-88-2 (Chlorpyrifos); 3766-81-2 (Fenobucarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 29232-93-7 (Pirimiphos-methyl); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 70124-77-5 (Flucythrinate) Role: ANT (Analyte), BPR (Biological process), BSU (Biological study, unclassified), POL (Pollutant), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence), PROC (Process) (detn. of agrochem. residues in beer and fate of pesticides assocd. with malt and hops during brewing)

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Citations: 16) Wigfield, Y; Bull Environ Contam Toxicol 1994, 53, 543 A process for predicting the potential for persistence of agrochem. residue levels in beer has been developed. For this, anal. methods were first developed for detg. the agrochem. residues in beer, wort, and various byproducts during the brewing processes. Second, various types of agrochems. were spiked during the mashing, wort boiling, or fermn. processes and the residues in the product and in the byproduct were detd. with the developed method. Agrochems. added were representative of the

typical chem. groups of agrochems. for which max. residual levels in barley or hops are regulated by Japanese law. Third, the potential for the carryover of agrochem. residues into wort and beer was investigated based on chem. properties such as thermostability, chem. reactivity, and oil/water soly. (which was expressed as log Pow values). It was found that the carryover of agrochem. residues into wort and beer depended on their log Pow values. The carryover percentages into wort or beer of glyphosate (organophosphorus herbicide) having the lowest log Pow value were more than 90% of the amt. added to each process. On the other hand, most of the agrochems. having a high log Pow value, such as pyrethroid pesticides, were detected in the fractions of the spent grains and spent hops. Some amts. of the added agrochems. were lost during the wort boiling process. On the other hand, no significant redn. was obsd. during the fermn. process. None of the agrochems. spiked in the hop pellets were detected in beer because of the loss during boiling and fermn., though the levels of the spiked agrochems. were high enough to be detected in beer if no loss of the spiked agrochems. had occurred. From these results, the process for predicting the potential for the carryover of agrochem. residues in malt or hops into beer on a lab. scale was proposed, in that the log Pow values of a agrochem. was effectively used as the primary indicator. [on SciFinder (R)] 0361-0470 pesticide/ malt/ hop/ brewing;/ beer/ pesticide/ detn

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:146171
Chemical Abstracts Number: CAN 136:358694
Section Code: 59-1
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; size exclusion chromatog. cleanup for GC/MS detn. of organophosphorus pesticide residues in household and vehicle dust); Dust (house; size exclusion chromatog. cleanup for GC/MS detn. of organophosphorus pesticide residues in household and vehicle dust); Gas chromatography (mass spectrometry combined with; size exclusion chromatog. cleanup for GC/MS detn. of organophosphorus pesticide residues in household and vehicle dust); Pesticides (organophosphorus; size exclusion chromatog. cleanup for GC/MS detn. of organophosphorus pesticide residues in household and vehicle dust); Size-exclusion chromatography (size exclusion chromatog. cleanup for GC/MS detn. of organophosphorus pesticide residues in household and vehicle dust); Dust (street; size exclusion chromatog. cleanup for GC/MS detn. of organophosphorus pesticide residues in household and vehicle dust)
CAS Registry Numbers: 86-50-0 (Azinphosmethyl); 121-75-5 (Malathion); 298-00-0 (Methyl parathion); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 2921-88-2 (Chlorpyrifos) Role: ANT (Analyte), ANST (Analytical study) (size exclusion chromatog. cleanup for GC/MS detn. of organophosphorus pesticide residues in household and vehicle dust)
Citations: 1) Snyder, L; Practical HPLC Method Development 1988, 183
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Citations: 12) Loewenherz, C; Environ Health Perspect 1997, 105, 1344
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Citations: 15) Roberts, J; Bull Environ Contam Toxicol 1989, 43, 717
Citations: 16) Douwes, J; Indoor Air International Journal of Indoor Air Quality and Climate 1998, 8, 255
Citations: 17) Hsu, J; J Chromatographic Sci 1988, 26, 181
Citations: 18) Nigg, H; J Agric Food Chem 1979, 27, 578
Citations: 19) Moate, T; J Chromatogr A 1997, 775, 307
Citations: 20) Novak, R; Today's Chemist at Work 1999, 8, 65 Size exclusion chromatog. (SEC) was used as a cleanup method for the anal. of organophosphorus pesticides in household and vehicle dusts. The pesticides investigated were diazinon, methyl parathion, chlorpyrifos, malathion, phosmet, and azinphosmethyl. These compds. are of interest due to their use in agricultural tree fruit prodn. and/or urban pest control. Pesticides were detd. via gas chromatog./mass spectrometry with selected-ion monitoring and cool on-column injection. The lower limit of method validation was 0.20 mg/g. Method limits of detection in dust ranged from 0.012-0.055 mg/g. Dust samples were collected with vacuums from the homes and vehicles of people living and working in a rural agricultural region in the central part of Washington State. The analytes were extd. from the dust by sonication in acetone. The exts. were solvent-exchanged to cyclohexane, frozen, thawed, and centrifuged prior to SEC injection. Following SEC, the eluent was split into 2 fractions, concd., and injected on-column into the gas chromatograph. This method represents the first complete publication describing the SEC cleanup of organophosphorus pesticides in dusts. Recoveries of pesticides in dusts ranged from 63.5-110.8 +-4.9-19.6% over a fortification range of 0.20-10.00 mg/g. This optimized, automated, and reproducible SEC method does not require further treatment or cleanup for trace detn. of these organophosphorus pesticides. [on SciFinder (R)] 1060-3271 organophosphorus/ pesticide/ detn/ dust/ size/ exclusion/ chromatog/ GC/ MS

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<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: BIOLOGICAL TOXICANT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Natural leachates of Eucalyptus globulus (throughfall, stemflow, and soil percolates) were collected daily during rainy spells in the vegetative period (February-July), and their effects on the germination and radicle growth of Lactuca sativa were measured. Concurrently, the effects of L. sativa of topsoil and leachates from decaying litter were determined. The results suggest that toxic allelochemicals released by Eucalyptus globulus may influence the composition and structure of the understory of the plantation and that this effect is attributable mainly to the decomposition products of decaying litter rather than to aerial leachates. The soil may neutralize or dilute allelopathic agents, at least below the top few cms.
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: BIOPHYSICS

MESH HEADINGS: PLANT GROWTH REGULATORS/PHARMACOLOGY
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: PLANTS/DRUG EFFECTS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/CHEMISTRY
MESH HEADINGS: SOIL
MESH HEADINGS: TREES
MESH HEADINGS: ENVIRONMENTAL POLLUTION
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: WEATHER
MESH HEADINGS: PLANTS
MESH HEADINGS: PLANTS
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Plant Physiology
KEYWORDS: Plant Physiology
KEYWORDS: Plant Physiology
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Forestry and Forest Products
KEYWORDS: Phytopathology-Nonparasitic Diseases
KEYWORDS: Compositae
KEYWORDS: Myrtaceae
LANGUAGE: eng

885. Montana*, Carlos, Cavagnaro+, Bruno, and Briones*++, Oscar (1995). Soil water use by co-existing shrubs and grasses in the Southern Chihuahuan Desert, Mexico. *Journal of Arid Environments* 31: 1-13.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Soil water use by shrubs and grasses of vegetation patches (vegetation arcs) occurring in two-phase mosaics of the Southern Chihuahuan Desert (Mexico) was investigated after an experimental irrigation equivalent to a 75 mm rainfall. Three shrubs (Flourensia cernua,Larrea tridentataandProsopis glandulosa) and one grass (Hilaria mutica) were studied. Irrigation water did not percolate deeper than 40 cm. This soil layer contained more than 75% of the roots in all species, exceptP. glandulosawhere a less developed, deeper root system was detected (but not quantified). Root distribution indicates that the water stored in the 0-40-cm soil layer after the experimental irrigation was available for the four species. However, predawn xylem water potential (XWP) ofF. cernuaandH. muticawere strongly influenced by soil water present in the 0-40-cm layer, whereas those ofL. tridentataandP. glandulosawere not. Differences in predawn XWP between watered and unwatered individuals were greatest inF. cernuaandH. mutica, and smallest inP. glandulosa. Changes in tissue osmotic potential (TOP) values as a consequence of watering were sharply marked in all species exceptP. glandulosa. H. muticaXWP approached zero for a few days in response to small rain events. The results indicate that adult individuals of grasses and shrubs are potential competitors for soil resources (to a variable degree according to the shrub species). Their co-existence in the arcs is probably favoured by a process of slow competitive displacement as long as the recruitment of new shrubs takes place mainly by colonization of the upslope fringe of the arcs where grass biomass is low. As development of the vegetation progresses in the colonization front and the grass canopy is almost closed, the chances of a shrub being suppressed by water competition diminishes in the following order:F. cernua,L. tridentata,P. glandulosa. A drastic reduction in grass biomass because of grazing would depress the competitive ability of the grasses and may preferentially facilitate the establishment of livestock dispersed species likeP. glandulosa. A consequent shift to a more shrubby community seems unavoidable

since the recovery of the grass strata will probably not suppress the newly-established shrubs tapping water from deep water sources. Flourensia cernua; Larrea tridentata; Prosopis glandulosa; Hilaria mutica; Chihuahuan Desert; vegetation arcs; water use; colonization
http://www.sciencedirect.com/science/article/B6WH9-45S91G9-C/2/f5a274494365fc7250d07cb757f414bc

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Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0016-7061
Descriptors: Organic carbon
Descriptors: Breakthrough curves
Descriptors: Nonequilibrium process
Descriptors: Intraparticular diffusion
Abstract: Agricultural systems of Argentina have increased herbicides inputs, mostly associated with adoption of no tillage (NT). Several studies have revealed presence of pesticides in groundwater. Therefore, research on the behaviour of herbicides in soils is driven by the need to manage and prevent possible contamination of groundwater. Soil organic carbon (OC) is the main soil component responsible of sorption, and consequently the main tool to reduce the leaching. However, in dynamic systems transport of organic chemicals depends on soil structural and hydraulic properties. Sorption controls the physical and biological availability of chemicals. Physical, heterogeneous flow domain, and chemical, kinetic reactions and molecular diffusion into aggregates, which are nonequilibrium processes that affect solute transport. The main objective of this paper was to evaluate the effects of soil texture and tillage system on atrazine transport through intact soil columns. The study focused on the identification of processes; and determination of parameters that control atrazine transport in the upper layer of soils. Balcarce (BAL, silty clay loam, fine, thermic, illitic, Typic Argiudoll)), Tres Arroyos (TAR, clay loam, fine, thermic, illitic, Typic Argiudoll) and Coronel Dorrego (DOR, loam, fine, thermic, mixed illitic-montmorillonitic, Typic Argiudoll) soils from the southeast of Buenos Aires Province (Argentina) were selected. The soils represent a wide range of OC content (BAL 35.5, TAR 28.8 and DOR 17.3[space]g kg^{- 1}). At each site NT and conventional tillage (CT) systems were sampled. Four replicates of intact soils cores (15 x 8[space]cm) were removed from each combination of soil x tillage (BAL-NT, BAL-CT, TAR-NT, TAR-CT, DOR-NT, DOR-CT). Displacement studies were done using atrazine as the reactive solute and bromide as the nonreactive solute. Equilibrium and nonequilibrium transport models (CXTFIT 2.1) were employed to describe the breakthrough curves (BTCs). The software tool SMART was used to simulate atrazine transport under steady-state flow conditions. Atrazine BTCs were skewed to the right; exhibiting an asymmetric shape and tailing that implied nonequilibrium conditions during transport. Since physical nonequilibrium was assumed to be nearly negligible, the observed nonequilibrium was interpreted as a sorption-related process. The two-site nonequilibrium model showed an acceptable fit with the observed data (72 < R² < 86). Recovery percentages of atrazine in effluents were: BAL-CT 54.51%; BAL-NT 45.10%; TAR-CT 44.28%; TAR-NT 29.70%; DOR-CT 18.60%; DOR-NT 48.95%. The intraparticle diffusion model provided by SMART showed the best fit. In conclusion, intrinsic soil properties were more relevant for atrazine transport than those associated with tillage practices. However, no tillage produced early detection of atrazine in effluents, and favoured atrazine leaching in coarser soils with the lowest OC contents. However, the maximum loss of atrazine in the percolate took place in the soils with the highest OC level; with no effects of tillage practices. These soils had fine texture, and were well structured and aggregated. Intraparticle and intraorganic matter diffusion appear to be responsible for nonequilibrium sorption. Delayed sorption in aggregated soils leads to high concentration of atrazine available for leaching. (copyright) 2006 Elsevier B.V. All rights reserved.
52 refs.
Language: English

English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science
Subfile: Plant Science

887. Moody, Michael F. (1999). Geometry of phage head construction. *Journal of Molecular Biology* 293: 401-433.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

The process of phage capsid assembly is reviewed, with particular attention to the probable role of curvature in helping to determine head size and shape. Both measures of curvature (mean curvature and Gaussian curvature, explained in), should act best when the assembling shell is spherical, which could account for procapsids having this shape. Procapsids are also relatively thick, which should help head size determination by the mean curvature. The accessory role of inner and outer scaffolds in size determination and head nucleation is also reviewed. Nucleation failure generates various malformations, including non-closure, but the most common is the tube or polyhead, where the subunits' inherent curvature is expressed as a constant mean curvature. This induces lattice distortions that only partly understood. An extra tubular section in normal heads leads to the prolate shape, with a more complex and variable geometry. Newly assembled procapsids are both enlarged and toughened by the head transformation. In the procapsid the Gaussian curvature is uniformly distributed. But toughening tends to equalize bond lengths, so all the Gaussian curvature gets concentrated in the vertices, being zero elsewhere. This explains head angularization. Because of this change in Gaussian curvature, the regular subunit packing in the polyhedral head cannot be mapped onto the procapsid. This explains part of the hexon distortions found in this region. The implications of translocase-induced DNA twist, end rotation and the coiling of packaged DNA, are discussed. The symmetry mismatches between the head, connector and tail are discussed in relation to the possible [alpha]-helical structures of their DNA channels.
bacteriophage/ viral capsid/ assembly/ procapsid curvature/ symmetry mismatches
http://www.sciencedirect.com/science/article/B6WK7-45SR5DX-S/2/a6d1ed3e74355df1c4c342e724f3898b

888. Moon, H. K. and Hong, S. P. (2003). Pollen Morphology of the Genus Lycopus (Lamiaceae). *Annales Botanici Fennici, 40 (3) pp. 191-198, 2003*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0003-3847
Descriptors: Lamiaceae
Descriptors: Lycopus
Descriptors: Mentheae
Descriptors: Pollen morphology
Descriptors: SEM
Descriptors: Systematics
Descriptors: TEM
Abstract: The pollen morphology of 15 species (34 specimens) of the genus Lycopus (Lamiaceae, Mentheae) was studied and documented in detail using light microscopy (LM), scanning electron (SEM), and transmission electron microscopy (TEM). The pollen is mostly medium or sometimes small in size, with a circular amb, oblate to prolate in shape, hexacolpate with granular membranes; the exine is bi-reticulate, with unbranched columellae and a continuous, lamellated endexine. The results indicate that Lycopus is stenopalynous; thus the value of pollen characters for taxonomic applications is limited. Some phylogenetic relationships with other related taxa within the tribe Mentheae are also briefly discussed.
27 refs.
Language: English
English

Publication Type: Journal
Publication Type: Article
Country of Publication: Finland
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.6.2 STRUCTURE: Microscopy
Subfile: Plant Science

889. Moore, J. C., Hansen, D. J., Garnas, R. L., and Goodman, L. R. (Sandranular Carbon Filtration Treatment System for Removing Aqueous Pesticide Residues From a Marine Toxicology Laboratory Effluent. *Govt reports announcements & index (gra&i), issue 11, 1986*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

ABSTRACT: TD3: Flow-through toxicity tests using marine organisms can generate large volumes of contaminated sea water effluent which should be treated to remove the contaminants before being discharged into the environment. The authors have developed a sand filtration/activated carbon treatment system that removes a diversity of organophosphate, organochlorine and pyrethroid pesticide residues from these effluents. The sand filter removes from 60 to 97% of the chemicals by continuously filtering suspended particulates and associated chemicals as well as by facilitating partitioning of chemicals from water to organic material in the sand filter. Following sand filtration, effluent water slowly percolates through granular activated carbon. Overall, removal efficiencies exceed 90%. The organic material and associated chemicals are backwashed from the sand weekly, separated and concentrated by gravity and packaged for disposal. Journal article, Pub. in Water Research, v19 n12 p1601-1604 1985.
KEYWORDS: Pesticides
KEYWORDS: Water pollution control

890. Morais, Marc C., Choi, Kyung H., Koti, Jaya S., Chipman, Paul R., Anderson, Dwight L., and Rossmann, Michael G. (2005). Conservation of the Capsid Structure in Tailed dsDNA Bacteriophages: the Pseudoatomic Structure of [phi]29. *Molecular Cell* 18: 149-159.
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

Summary Bacteriophage [phi]29 is one of the smallest and simplest known dsDNA phages, making it amenable to structural investigations. The three-dimensional structure of a fiberless, isometric variant has been determined to 7.9 A resolution by cryo-electron microscopy (cryo-EM), allowing the identification of [alpha] helices and [beta] sheets. Their arrangement indicates that the folds of the [phi]29 and bacteriophage HK97 capsid proteins are similar except for an additional immunoglobulin-like domain of the [phi]29 protein. An atomic model that incorporates these two domains fits well into the cryo-EM density of the T = 3, fiberless isometric [phi]29 particle, and cryo-EM structures of fibered isometric and fiberless prolate prohead [phi]29 particles at resolutions of 8.7 A and 12.7 A, respectively. Thus, [phi]29 joins the growing number of phages that utilize the HK97 capsid structure, suggesting that this protein fold may be as prevalent in capsids of dsDNA phages as the jelly roll fold is in eukaryotic viruses.
http://www.sciencedirect.com/science/article/B6WSR-4FY3K4D-5/2/5d86e436e0f319dcb31258f007dd8e37

891. Morais, Marc C., Tao, Yizhi, Olson, Norman H., Grimes, Shelley, Jardine, Paul J., Anderson, Dwight L., Baker, Timothy S., and Rossmann, Michael G. (2001). Cryoelectron-Microscopy Image Reconstruction of Symmetry Mismatches in Bacteriophage [phi]29. *Journal of Structural Biology* 135: 38-46.
Chem Codes : Chemical of Concern: PSM Rejection Code: BACTERIA.

A method has been developed for three-dimensional image reconstruction of symmetry-mismatched components in tailed phages. Although the method described here addresses the specific case where differing symmetry axes are coincident, the method is more generally

applicable, for instance, to the reconstruction of images of viral particles that deviate from icosahedral symmetry. Particles are initially oriented according to their dominant symmetry, thus reducing the search space for determining the orientation of the less dominant, symmetry-mismatched component. This procedure produced an improved reconstruction of the sixfold-symmetric tail assembly that is attached to the fivefold-symmetric prolate head of [phi]29, demonstrating that this method is capable of detecting and reconstructing an object that included a symmetry mismatch. A reconstruction of [phi]29 prohead particles using the methods described here establishes that the pRNA molecule has fivefold symmetry when attached to the prohead, consistent with its proposed role as a component of the stator in the [phi]29 DNA packaging motor. cryo-EM image reconstruction; [phi]29; pRNA; symmetry mismatch; tail appendages
http://www.sciencedirect.com/science/article/B6WM5-45V28BN-5/2/f43de8c0c45a00f9053f2565f8334eb8

892. Morel, Jean E., Bachouchi-Salhi, Nacima, and Merah, Zalika (1992). Shape and length of myosin heads. *Journal of Theoretical Biology* 156: 73-90.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

There is controversy concerning the shape and length of myosin heads. In the present paper we try to analyse the data and to draw clear conclusions in this field. When the myosin heads are isolated (S1) from the rest of the molecule, their length is [approximate]12 nm and their shape is close to that of a prolate ellipsoid with an axial ratio [approximate]2[middle dot]3 (in solution) or close to that of a comma when attached to F-actin (with a length of 12-13 nm). When the myosin heads are observed on a whole molecule, their length is [approximate]19 nm and they are pear-shaped. Here we suggest that all these observations are compatible. We believe that, for a whole myosin molecule, a large part of the head-rod joint (S1/S2 joint) is measured with the head, owing to a particularly heavy staining or shadowing of this joint. On the other hand, S1 is probably built up of a head part plus the S1/S2 joint, which is not revealed by the usual techniques (hydrodynamics, X-ray and neutron scattering). Finally, the comma shape would be related to a flexible part in the head region of S1, which is significantly bent when S1 is attached to F-actin, but which would be less bent for S1 in solution. A similar bending also occurs in crystalline S1.
http://www.sciencedirect.com/science/article/B6WMD-4KFMD1G-6/2/d6a8d44137cc62ccbc9085258e68a6c2

893. Morelli, John J., Viswanadham, Somayajula K., Sharkey, Andrew G. Jr., and Hercules, David M (1987). Laser mass spectrometry of organophosphorus pesticides and related compounds. *International Journal of Environmental Analytical Chemistry* 31: 295-323.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1988:631150
Chemical Abstracts Number: CAN 109:231150
Section Code: 29-7
Section Title: Organometallic and Organometalloidal Compounds
CA Section Cross-References: 5, 73, 80
Document Type: Journal
Language: written in English.
Index Terms: Mass spectra (photoionization, of organophosphorus pesticides); Tautomerism and Tautomers (thiol-thione, in laser mass spectra of arom. thionophosphates)
CAS Registry Numbers: 56-72-4 (Coumaphos); 86-50-0 (Azinphos-methyl); 299-84-3 (Ronnel); 299-86-5 (Crufomate); 732-11-6 (Phosmet); 947-02-4 (Phosfolan); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2642-71-9; 2921-88-2 (Chlorpyrifos); 3454-66-8; 3735-33-9; 5131-24-8 (Ditalimphos); 5598-13-0 (Chlorpyrifos methyl); 5598-15-2 (Chlorpyrifos OA); 5871-17-0; 10311-84-9 (Dialifor); 13457-18-6 (Pyrazophos); 16001-68-6; 18181-70-9 (Iodofenphos); 21609-90-5; 25006-32-0; 28523-79-7; 30560-19-1 (Acephate) Role: PRP (Properties) (laser mass spectra of) Laser mass spectra obtained for 20 organophosphorus (OP)

compds., e.g., chloropyrifos, were systematically evaluated for groups contg. analogous structural features. Variations in fragmentation are based on simple org. reactions. While detailed mechanistic interpretations of the laser mass spectra (LMS) were not possible, the qual. features in the LMS obtained from 5 compds. not in the original set could be predicted based on the characteristics of the other OP compds. studied;the success of the prediction lends credence to the qual. models developed for rationalizing the LMS. A specific feature in the LMS of arom. thionophosphates is a thiono-thiolo rearrangement. Detailed investigation into the phenomena involved comparison of LMS obtained from arom. thionophosphates with spectra from electron impact, chem. ionization, field desorption, and secondary ion mass spectrometry. These results showed that the rearrangement in laser mass spectrometry must occur during volatilization while the mol./ion is in the cloud present immediately above the laser impact area. [on SciFinder (R)] 0306-7319 laser/ mass/ spectra/ organophosphorous/ compd;/ phosphorus/ compd/ laser/ mass/ spectra;/ pesticide/ phosphorus/ laser/ mass/ spectra;/ rearrangement/ thiono/ thiolo/ thionophosphate

894. Mori, S., Kozaki, Y., Kato, M., Tendo, A., Kikawa, Y., Sekine, H., and Muramatu, M. (Inhibition of Growth of Hela Cells by New Synthetic Protease Inhibitors. *J biochem (tokyo). 1984, jun; 95(6):1617-23. [Journal of biochemistry]: J Biochem (Tokyo).*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: Tryptic hydrolysis of benzoyl-DL-arginine p-nitroanilide was competitively inhibited by phenyl and substituted phenyl esters of trans-4-guanidinomethylcyclohexanecarboxylic acid (GMCHA), amidinopiperidine-4-carboxylic acid (APCA), amidinopiperidine-3-carboxylic acid (AP3CA), amidinopiperidine-4-acetic acid (APAA), amidinopiperidine-4-propionic acid (APPA), amidinopiperidine-3-propionic acid (AP3PA), amidinopiperidine-4-butyric acid (APBA), and amidinopiperidine-3-butyric acid (AP3BA). The 4-tert-butylphenyl (tBP) ester of APPA was the most effective inhibitor, its K1 value being 5.0 X 10(-7) M. The free acids and phenols had no inhibitory effect at 10(-3) M. The tBP esters of GMCHA, APPA, and APBA caused 50-60% inhibition of growth of HeLa cells, their effects being dose-dependent, while same esters of APCA, AP3PA, APPA, AP3PA, and AP3BA inhibited the growth by 30-40%. The phenyl esters of these were less inhibitory than the tBP esters. A protease preparation obtained from HeLa cells by sonication and ultrafiltration through a molecular sieve membrane strongly hydrolyzed the fluorescent peptides Boc-Val-Pro-Arg-MCA and Bz-Arg-MCA. This proteolytic activity was not affected by soybean trypsin inhibitor but was strongly inhibited by the tBP esters of GMCHA, APAA, and APBA, their effects roughly paralleling their inhibitions of the growth of HeLa cells.
MESH HEADINGS: Cell Division/*drug effects
MESH HEADINGS: Hela Cells/drug effects/physiology
MESH HEADINGS: Humans
MESH HEADINGS: Indicators and Reagents
MESH HEADINGS: Protease Inhibitors/chemical synthesis/*toxicity
MESH HEADINGS: Structure-Activity Relationship
LANGUAGE: eng

895. Moriarty, F., Bell, A. A., and Hanson, H. (1986). Does p,p'-DDE thin eggshells? *Environmental Pollution Series A, Ecological and Biological* 40: 257-286.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

It is generally accepted that p,p'-DDE causes many species of bird to lay eggs with thinner shells, but the published evidence for this proposition is ambiguous. Data on egg size (measured by maximum length), shape (measured by the ratio of maximum breadth to maximum length), shell thickness (measured indirectly by Ratcliffe's index, I) and p,p'-DDE content (log [mu]g g -1 fresh weight) were therefore examined in samples of eggs taken from three species: two samples from the gannet Sula bassana L., three samples from the shag Phalacrocorax aristotelis L. and six samples from the heron Ardea cinerea L. The value of I is virtually unaffected by changes of egg size but is affected by egg shape, and this variable bias in Ratcliffe's index did in some instances materially affect the conclusions to be drawn from the data. A revised index (J), derived from the prolate spheroid, was therefore developed. The value of J is virtually unaffected by changes of egg size and shape, and yields a much more accurate estimate of the product of the mean shell density and thickness. The conventional negative linear regression of Ratcliffe's index on p,p'-DDE content occurred in many, but not all, of the egg samples that had at least a 10-fold range of p,p'-DDE concentrations. Two other samples both contained two eggs with p,p'-DDE concentrations of not more than 0[middle dot]1 [mu]g g-1 fresh weight. The shell index I increased, or at least did not decrease, until the p,p'-DDE content exceeded about 0[middle dot]1-0[middle dot]2 [mu]g g-1. We suggest that a curvilinear relationship with a maximum turning point is probably a common physiological response to pollutants. http://www.sciencedirect.com/science/article/B75CH-48XD9R3-69/2/d7c7e83a37ad1950b2b8cdfde5af9bea

896. Moriya, M., Ohta, T., Watanabe, K., Miyazawa, T., Kato, K., and Shirasu, Y (1983). Further mutagenicity studies on pesticides in bacterial reversion assay systems. *Mutation Research* 116: 185-216. Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

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Database: CAPLUS
Accession Number: AN 1983:156179
Chemical Abstracts Number: CAN 98:156179
Section Code: 4-6
Section Title: Toxicology
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Cyclic compounds Role: BIOL (Biological study) (chlorinated, mutation of, in bacterial reversion assay); Mutation (from pesticides, in bacterial reversion assay); Antibiotics; Carcinogens; Fungicides and Fungistats; Herbicides; Insecticides; Pesticides (mutagenicity of, in bacterial reversion assay); Amides; Anilides; Animal growth substances; Aromatic hydrocarbons; Natural products; Petroleum; Pyrethrins and Pyrethroids Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (mutagenicity of, in bacterial reversion assay); Escherichia coli; Salmonella typhimurium (mutation of, from pesticides, as screening assay); Alkanes Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (halo, mutagenicity of, in bacterial reversion assay); Trace elements Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (metals, mutagenicity of, in bacterial reversion assay); Molecular structure-biological activity relationship (mutagenic, of pesticides); Alcohols Role: BIOL (Biological study) (rape-oil, ethoxylated, mutagenicity of, in bacterial reversion assay)
CAS Registry Numbers: 50-29-3; 51-03-6; 52-68-6; 57-13-6D; 60-51-5; 60-57-1; 61-82-5; 62-73-7; 63-25-2; 65-30-5; 65-85-0D; 71-43-2D; 72-20-8; 72-54-8; 72-55-9; 74-83-9; 75-99-0; 76-03-9; 76-06-2; 76-44-8; 76-87-9; 77-06-5; 79-57-2; 80-06-8; 80-33-1; 82-68-8; 83-79-4; 85-00-7; 86-87-3; 87-86-5; 90-43-7; 93-65-2; 94-74-6; 94-75-7; 94-81-5; 96-12-8; 96-45-7; 97-17-6; 101-05-3; 101-21-3; 101-84-8D; 106-93-4; 107-06-2; 108-60-1; 109-84-2; 114-26-1; 115-29-7; 115-32-2; 116-29-0; 119-12-0; 121-75-5; 122-14-5; 122-88-3; 123-33-1; 126-07-8; 128-04-1; 133-06-2; 133-07-3; 133-32-4; 137-26-8; 137-30-4; 140-56-7; 148-79-8; 290-87-9D; 298-04-4; 300-76-5; 302-01-2D; 304-81-4; 309-00-2; 314-40-9; 319-84-6; 330-54-1; 330-55-2; 333-41-5; 463-77-4D; 468-44-0; 470-90-6; 485-31-4; 510-15-6; 533-74-4; 556-61-6; 563-12-2; 584-79-2; 594-07-0D; 640-15-3; 709-98-8; 732-11-6; 741-58-2; 759-94-4; 957-51-7; 1024-57-3; 1071-83-6; 1085-98-9; 1129-41-5; 1134-23-2; 1214-39-7; 1309-37-1; 1344-81-6; 1563-66-2; 1582-09-8; 1594-56-5; 1596-84-5; 1836-75-5; 1836-77-7; 1861-32-1; 1861-40-1; 1897-45-6; 1910-42-5; 1918-00-9; 1918-13-4; 1918-18-9; 1982-49-6; 2079-00-7; 2104-64-5; 2164-08-1; 2212-67-1; 2227-17-0; 2274-67-1; 2275-23-2; 2312-35-8; 2425-06-1; 2425-10-7; 2439-01-2; 2540-82-1; 2593-15-9; 2595-54-2; 2597-03-7; 2631-40-5; 2655-14-3; 2674-91-1; 2675-77-6; 2797-51-5; 2813-95-8; 2921-88-2; 3337-71-1; 3347-22-6; 3566-10-7; 3586-60-5; 3766-81-2; 3773-49-7; 3792-59-4; 3811-49-2; 3861-47-0; 5221-53-4; 5234-68-4; 5259-88-1; 5598-13-0; 5836-10-2; 5902-51-2; 6386-63-6; 6923-22-4; 6980-18-3; 7292-16-2; 7681-49-4; 7704-34-9; 7723-14-0D; 7733-02-0; 7758-98-7; 7773-06-0; 7775-09-9; 8003-19-8; 8018-01-7; 9003-04-7; 10004-44-1; 10380-28-6;

12122-67-7; 12427-38-2; 13067-93-1; 13121-70-5; 13356-08-6; 13457-18-6; 13516-27-3; 13684-63-4; 14484-64-1; 14816-18-3; 15299-99-7; 15972-60-8; 16672-87-0; 16752-77-5; 17109-49-8; 17804-35-2; 18181-80-1; 18691-97-9; 18854-01-8; 19396-06-6; 19666-30-9; 21087-64-9; 21725-46-2; 22248-79-9; 22936-75-0; 23103-98-2; 23135-22-0; 23184-66-9; 23245-64-9; 23564-05-8; 23950-58-5; 24151-93-7; 25057-89-0; 25311-71-1; 25319-90-8; 25954-13-6; 26087-47-8; 26644-46-2; 27355-22-2; 27605-76-1; 29104-30-1; 29232-93-7; 30560-19-1; 32861-85-1; 33089-61-1; 33439-45-1; 33972-75-7; 34041-03-7; 34622-58-7; 34643-46-4; 34681-23-7; 35367-38-5; 36001-88-4; 36519-00-3; 37248-47-8; 38260-54-7; 39285-04-6; 39300-45-3; 39680-90-5; 41295-28-7; 41814-78-2; 42576-02-3; 42609-52-9; 42609-73-4; 50512-35-1; 52645-53-1; 55335-06-3; 64440-88-6; 146659-78-1 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (mutagenicity of, in bacterial reversion assay) A total of 228 pesticides (88 insecticides, 60 fungicides, 62 herbicides, 12 plant-growth regulators, 3 metabolites, and 3 other compds.) were tested for mutagenicity in bacterial reversion-assay systems with 5 strains (TA 100, 98, 1535, 1537, and 1538) of Salmonella typhimurium and a strain (WP2 hcr) of Escherichia coli. Fifty pesticides (25 insecticides, 20 fungicides, 3 herbicides, 1 plant-growth regulator, and 1 other compd.) were mutagenic, 5 of which required metabolic activation (S9 mix). Among various chem. groups, org. phosphates, halogenated alkanes, and dithiocarbamates had higher ratios of mutagens. Although 22 of the pesticides tested have been reported to be carcinogenic, 7 of them, i.e., captan [133-06-2], DBCP [96-12-8], EDB [106-93-4], EDC [107-06-2], ETU [96-45-7], HEH [109-84-2], and nitrofen [1836-75-5], were detected as mutagens. Most of the 15 nonmutagenic carcinogens were organochlorine pesticides such as a-BHC [319-84-6], chlorobenzilate [510-15-6], DDT [50-29-3], dieldrin [60-57-1] and quintozene [82-68-8]. [on SciFinder (R)] 0027-5107 pesticide/ mutagenicity/ bacteria/ reversion/ assay

897. Morris, O. N (1977). Compatibility of 27 chemical insecticides with Bacillus thuringiensis var. kurstaki. *Canadian Entomologist* 109: 855-64.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1978:59115
Chemical Abstracts Number: CAN 88:59115
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (compatibility of, with Bacillus thuringiensis kurstaki); Pyrethrins and Pyrethroids Role: BIOL (Biological study) (compatibility of, with Bacillus thuringiensis kurstaki); Bacillus thuringiensis kurstaki (insecticides compatibility with)
CAS Registry Numbers: 52-68-6; 60-51-5; 63-25-2; 122-14-5; 300-76-5; 315-18-4; 732-11-6; 1933-50-2; 2921-88-2; 3383-96-8; 6164-98-3; 13171-21-6; 14816-18-3; 16752-77-5; 22248-79-9; 30560-19-1; 35367-38-5 Role: BIOL (Biological study) (compatibility of, with Bacillus thuringiensis kurstaki) The compatibility of B. thuringiensis with 27 chem. insecticides representing organophosphorus and carbamate insecticides, pyrethrins, chlordimeforms, urea derivs., and an antifeedant were studied by way of their effects on germination of the bacterial spores, replication of vegetative cells and spore staining, and refractive index characteristics. Carbamates were generally more compatible with B. thuringiensis than were the other insecticide groups tested. Tech. formulations were less harmful to the bacteria than wettable powders which were less harmful than emulsifiable concs. Of the 27 pesticides, those most compatible with B. thuringiensis were Orthene [30560-19-1], Dylox [52-68-6], Lannate [16752-77-5], Sevin (I) [63-25-2], Zectran [315-18-4], and Dimilin [35367-38-5]. These insecticides are considered recommendable for use in integrated control operations with B. thuringiensis if the target insects are susceptible to them and provided that due to regard is given to the environmental implications of their use. [on SciFinder (R)] 0008-347X insecticide/ compatibility/ Bacillus

898. Morse, Dale L., McLellan, Robert, and Christophersen, Carmen (1982). Potential pesticide exposure of

migrant farmworkers living within spray areas. *Journal of Environmental Health* 44: 301-4.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1982:443544
Chemical Abstracts Number: CAN 97:43544
Section Code: 59-5
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Health hazard (from pesticide exposure, of migrant farmworkers living within spray areas); Pesticides (organophosphates, in airborne dust, of living camps, of migrant farmworker in New York)
CAS Registry Numbers: 86-50-0; 732-11-6; 2310-17-0 Role: POL (Pollutant), OCCU (Occurrence) (in airborne dust, of living camps, of migrant farmworker in New York) A significant no. of migrant farmworkers have potential pesticide exposure by living within spray areas. Specifically, 78% of 36 Wayne County, New York migrant camps during Aug. 1979 were occupied prior to the end of the spray season. Most camps were located within orchard spray areas with 68% within 20 ft of trees. Of indoor dust specimens collected at 24 camps 8.3% contain organophosphate pesticide residues. [on SciFinder (R)] 0022-0892 pesticide/ exposure/ migrant/ farmworker/ US

899. Mortensen, Spencer R (2006). Toxicity of organophosphorus and carbamate insecticides using birds as sentinels for terrestrial vertebrate wildlife. 673-678.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:955510
Chemical Abstracts Number: CAN 146:1719
Section Code: 4-0
Section Title: Toxicology
Document Type: Conference; General Review
Coden: 69IKWR
Language: written in English.
Index Terms: Toxicity (acute; toxicity of organophosphorus and carbamate insecticides using birds as sentinels for terrestrial vertebrate wildlife); Pesticides (carbamate; toxicity of organophosphorus and carbamate insecticides using birds as sentinels for terrestrial vertebrate wildlife); Insecticides (organophosphorus; toxicity of organophosphorus and carbamate insecticides using birds as sentinels for terrestrial vertebrate wildlife); Aves; Standards (toxicity of organophosphorus and carbamate insecticides using birds as sentinels for terrestrial vertebrate wildlife)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 78-34-2 (Dioxathion); 86-50-0 (Azinphos-methyl); 97-17-6 (Dichlofenthion); 107-49-3 (TEPP); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 116-01-8 (Ethoate-methyl); 116-06-3 (Aldicarb); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-10-1 (Bomyl); 122-14-5 (Fenitrothion); 126-22-7 (Butonate); 141-66-2 (Dicrotophos); 144-41-2 (Morphothion); 152-16-9 (Schradan); 297-97-2 (Thionazin); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronat); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 640-15-3 (Thiometon); 644-64-4 (Dimetilan); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-76-6 (Amidithion); 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1031-47-6

(Triamiphos); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1563-66-2 (Carbofuran); 1646-88-4 (Aldoxycarb); 1754-58-1 (Diamidafos); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2425-10-7 (Xylylcarb); 2463-84-5 (Dicapthon); 2497-07-6 (Oxydisulfoton); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2655-14-3 (XMC); 2655-19-8 (Butacarb); 2674-91-1 (Oxydeprofos); 2778-04-3 (Endothion); 2921-88-2 (Chlorpyrifos); 3309-87-3 (DMCP); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 3734-95-0 (Cyanthoate); 3766-81-2 (Fenobucarb); 3792-59-4 (EPBP); 3811-49-2 (Dioxabenzofos); 4824-78-6 (Bromophos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 5827-05-4 (IPSP); 6392-46-7 (Allyxycarb); 6923-22-4 (Monocrotophos); 6988-21-2; 7219-78-5 (Mazidox); 7292-16-2 (Kayaphos); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8022-00-2 (Demeton-methyl); 8065-36-9 (Bufencarb); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 12407-86-2 (Trimethacarb); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 13265-60-6 (DAEP); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 14816-20-7 (Chlorphoxim); 16752-77-5 (Methomyl); 18181-70-9 (Jodfenphos); 18854-01-8 (Isoxathion); 20276-83-9 (Prothidathion); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22259-30-9 (Formetanate); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24353-61-5 (Isocarbophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 36614-38-7 (Isothioate); 38260-54-7 (Etrimfos); 39196-18-4 (Thiofanox); 41198-08-7 (Profenofos); 42509-80-8 (Isazofos); 54593-83-8 (Chlorethoxyfos); 55285-14-8 (Carbosulfan); 59669-26-0 (Thiodicarb); 60238-56-4 (Chlorthiophos); 64249-01-0 (Anilofos); 65907-30-4 (Furathiocarb); 79637-88-0 (Chloethocarb); 82560-54-1 (Benfuracarb); 83130-01-2 (Alanycarb); 83733-82-8 (Fosmethilan); 87130-20-9 (Diethofencarb); 89784-60-1 (Pyraclofos); 95465-99-9 (Cadusafos); 96182-53-5 (Tebupirimfos); 98886-44-3 (Fosthiazate); 112143-82-5 (Triazamate) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of organophosphorus and carbamate insecticides using birds as sentinels for terrestrial vertebrate wildlife)
Citations: Clothier, B; Biochem Biophys Acta 1981, 660, 306
Citations: Anon; Crop Protection Handbook 2004, 90
Citations: Ecobichon, D; Casarett and Doull's Toxicolgy:The Basic Science of Poisons, 4th ed 1991, 565
Citations: Grue, C; Trans N Am Wildl Nat Res Conf 1983, 48, 200
Citations: Hooper, M; Handbook of Ecotoxicology, 2nd ed 2003, 737
Citations: Kiely, T; Pesticides Industry Sales and Usage:2000 and 2001 Market Estimates 2004
Citations: Mineau, P; A critique of the avian 5-day dietary test (LC50) as the basis of the avian risk assessment 1994, 215
Citations: Mineau, P; Rev Environ Contam Toxicol 2001, 170, 13
Citations: Smith, G; Pesticide Use and Toxicology in Relation to Wildlife:Organophosphorus and Carbamate Compounds 1987
Citations: Tomlin, C; The Pesticide Manual, 12th ed 2000
Citations: U S Environmental Protection Agency; Pesticide reregistration rejection rate analysis:Ecological effects 1994, EPA 738-R-94-035 A review. A review presents the organophosphate and carbamate insecticides that are registered in the world, with emphasis on those that have a U.S. registration. Two methods of estg. the relative toxicity of each compd. to bird are given: the HD5 method, which is based on the avian acute oral toxicity test, and the U.S. EPA's category to toxicity to birds, which is also based on the avian acute oral toxicity test. [on SciFinder (R)] review/ insecticide/ organophosphorus/ carbamate/ avian/ toxicity

900. Mortimer, Richard D. and Dawson, Brian A (1991). A study to determine the feasibility of using phosphorus-31 NMR for the analysis of organophosphorus insecticide residues in cole crops. *Journal of Agricultural and Food Chemistry* 39: 911-16.

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1991:227554
Chemical Abstracts Number: CAN 114:227554
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Brassica; Broccoli (insecticides contg. phosphorus detection in, by phosphorus-31 NMR); Nuclear magnetic resonance (of insecticides contg. phosphorus); Insecticides (phosphorus-contg., detection of, by phosphorus-31 NMR); Cabbage (red, insecticides contg. phosphorus detection in, by phosphorus-31 NMR)
CAS Registry Numbers: 55-38-9 (Fenthion); 97-17-6 (Dichlofenthion); 115-90-2 (Fensulfothion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 301-12-2 (Oxydemeton-methyl); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet); 1113-02-6 (Omethoate); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 13071-79-9 (Terbufos) Role: ANT (Analyte), ANST (Analytical study) (detection of, by phosphorus-31 NMR); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 298-04-4 (Disulfoton); 300-76-5 (Naled); 333-41-5 (Diazinon); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 10265-92-6 (Methamidophos) Role: ANT (Analyte), ANST (Analytical study) (detection of, in crucifers by phosphorus-31 NMR); 21679-31-2 (Chromium acetylacetonate) Role: BIOL (Biological study) (in phosphorus-contg. insecticide detection by phosphorus-31 NMR); 7723-14-0 Role: BIOL (Biological study) (nuclear magnetic resonance, of insecticides contg. phosphorus); 298-01-1 ((E)-Mevinphos); 338-45-4 ((Z)-Mevinphos) Role: PRP (Properties) (phosphorus-31 NMR chem. shift of, chromium acetylacetonate effect on) The feasibility of detg. phosphorodithioate, phosphorothioate, phosphorothiolate and phosphate insecticides in Brassica by 31P NMR was studied with 24 insecticides and with red cabbage and broccoli. The foods were homogenized in acetone and the exts. were partitioned into CH_2Cl_2, concd., and taken i.p. in $CDCl_3$ contg. triphenylphosphine. Of the 10 P-contg. insecticides registered for use on various cole crops in Canada, only naled and mevinphos could not be detd. without ext. cleanup of a ?50-g sample in 30 min on a 400 MHz spectrometer. The use of Cr acetylacetonate as a relaxation agent caused some chem. shifts; its concn. must be carefully controlled. The min. detectable concns. are approx. 1, 0.3, and 0.12 ppm with 250-, 400-, and 500-MHz spectrometers, resp. [on SciFinder (R)] 0021-8561 Brassica/ phosphorus/ insecticide/ detn;/ NMR/ phosphorus/ insecticide

901. Moseley, C. L. and Meyer, M. R. (1992). Petroleum Contamination of an Elementary School: a Case History Involving Air, Soil-Gas, and Groundwater Monitoring. *Environ sci technol* 26: 185-192.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A case history of petroleum contamination migration with the groundwater is presented. Air, soil-gas, and groundwater monitoring were used to investigate the source and extent of petroleum contamination in an elementary school located adjacent to a gasoline station and a petroleum tank farm. The school had been closed when students and teachers reported noxious odors. Groundwater and soil-gas data indicated that a plume of contamination following the local groundwater gradient had appeared between a petroleum tank known to have leaked 20,000 gal of gasoline and the school building. Air samples revealed contamination beneath the school and within the school itself. Caution is warranted when soil-gas surveys are used to determine the location of a groundwater contaminant plume. Groundwater recharge from precipitation can markedly influence the migration rate of a contaminant plume and can increase the ability of vaporous components to percolate upward. The elementary scho
MESH HEADINGS: ECOLOGY

MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
LANGUAGE: eng

902. Mouchet, F. , Gauthier, L., Mailhes, C., Jourdain, M. J., Ferrier, V., Triffault, G., and Devaux, A. (2006). Biomonitoring of the Genotoxic Potential of Aqueous Extracts of Soils and Bottom Ash Resulting From Municipal Solid Waste Incineration, Using the Comet and Micronucleus Tests on Amphibian (Xenopus Laevis) Larvae and Bacterial Assays (Mutatox[Registered] and Ames Tests). *Science of the Total Environment [Sci. Total Environ.]. Vol. 355, no. 1-3, pp. 232-246. Mar 2006.*
Chem Codes: Chemical of Concern: PSM Rejection Code: MIXTURE.

ISSN: 0048-9697
Descriptors: Article Subject Terms: Ames test
Descriptors: Amphibians
Descriptors: Amphibiotic species
Descriptors: Aromatic hydrocarbons
Descriptors: Ash
Descriptors: Bacteria
Descriptors: Bioassay
Descriptors: Bioassays
Descriptors: Comet assay
Descriptors: Complement
Descriptors: DNA damage
Descriptors: Erythrocytes
Descriptors: Exposure
Descriptors: Genotoxicity
Descriptors: Genotoxicity testing
Descriptors: Incineration
Descriptors: Larvae
Descriptors: Leachates
Descriptors: Metals
Descriptors: Models
Descriptors: Municipal solid wastes
Descriptors: Pollution effects
Descriptors: Polycyclic aromatic hydrocarbons
Descriptors: Soil
Descriptors: Soil Contamination
Descriptors: Soil contamination
Descriptors: Soil pollution
Descriptors: Solid impurities
Descriptors: Solid wastes
Descriptors: Solvents
Descriptors: Testing Procedures
Descriptors: Toxicity

Descriptors: Toxicity tests
Descriptors: Wastes
Descriptors: Water Pollution Effects
Descriptors: biomonitoring
Descriptors: Article Taxonomic Terms: Amphibia
Descriptors: Bacteria
Descriptors: Xenopus laevis
Abstract: The management of contaminated soils and wastes is a matter of considerable human concern. The present study evaluates the genotoxic potential of aqueous extracts of two soils (leachates) and of bottom ash resulting from municipal solid waste incineration (MSWIBA percolate), using amphibian larvae (Xenopus laevis). Soil A was contaminated by residues of solvents and metals and Soil B by polycyclic aromatic hydrocarbons and metals. MSWIBA was predominantly contaminated by metals. Two genotoxic endpoints were analysed in circulating erythrocytes taken from larvae: clastogenic and/or aneugenic effects (micronucleus induction) after 12 days of exposure and DNA-strand-breaking potency (comet assay) after 1 and 12 days of exposure. In addition, in vitro bacterial assays (Mutatox[registered] and Ames tests) were carried out and the results were compared with those of the amphibian test. Physicochemical analyses were also taken into account. Results obtained with the amphibians established the genotoxicity of the aqueous extracts and the comet assay revealed that they were genotoxic from the first day of exposure. The latter test could thus be considered as a genotoxicity-screening tool. Although genotoxicity persisted after 12 days' exposure, DNA damage decreased overall between days 1 and 12 in the MSWIBA percolate, in contrast to the soil leachates. Bacterial tests detected genotoxicity only for the leachate of soil A (Mutatox). The results confirm the ecotoxicological relevance of the amphibian model and underscore the importance of bioassays, as a complement to physico-chemical data, for risk evaluation.
Publisher: Elsevier Science B.V., P.O. Box 211 Amsterdam 1000 AE Netherlands, [mailto:nlinfo-f@elsevier.nl], [URL:http://www.elsevier.nl/]
DOI: 10.1016/j.scitotenv.2005.02.031
Language: English
English
Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: P 6000 TOXICOLOGY AND HEALTH
Classification: X 24240 Miscellaneous
Classification: Q5 01504 Effects on organisms
Classification: SW 3030 Effects of pollution
Classification: AQ 00003 Monitoring and Analysis of Water and Wastes
Classification: EE 60 Waste Management
Classification: P 4000 WASTE MANAGEMENT
Subfile: Aqualine Abstracts; Environmental Engineering Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Water Resources Abstracts; Toxicology Abstracts

903. Mouchet, F. , Gauthier, L., Mailhes, C., Jourdain, M. J., Ferrier, V., Triffault, G., and Devaux, A. (Biomonitoring of the Genotoxic Potential of Aqueous Extracts of Soils and Bottom Ash Resulting From Municipal Solid Waste Incineration, Using the Comet and Micronucleus Tests on Amphibian (Xenopus Laevis) Larvae and Bacterial Assays (Mutatox and Ames Tests). *Sci total environ. 2006, feb 15; 355(1-3):232-46. [The science of the total environment]: Sci Total Environ.*
Chem Codes: Chemical of Concern: PSM Rejection Code: MIXTURE.

ABSTRACT: The management of contaminated soils and wastes is a matter of considerable human concern. The present study evaluates the genotoxic potential of aqueous extracts of two soils (leachates) and of bottom ash resulting from municipal solid waste incineration (MSWIBA percolate), using amphibian larvae (Xenopus laevis). Soil A was contaminated by residues of solvents and metals and Soil B by polycyclic aromatic hydrocarbons and metals. MSWIBA was predominantly contaminated by metals. Two genotoxic endpoints were analysed in circulating erythrocytes taken from larvae: clastogenic and/or aneugenic effects (micronucleus induction)

after 12 days of exposure and DNA-strand-breaking potency (comet assay) after 1 and 12 days of exposure. In addition, in vitro bacterial assays (Mutatox and Ames tests) were carried out and the results were compared with those of the amphibian test. Physicochemical analyses were also taken into account. Results obtained with the amphibians established the genotoxicity of the aqueous extracts and the comet assay revealed that they were genotoxic from the first day of exposure. The latter test could thus be considered as a genotoxicity-screening tool. Although genotoxicity persisted after 12 days' exposure, DNA damage decreased overall between days 1 and 12 in the MSWIBA percolate, in contrast to the soil leachates. Bacterial tests detected genotoxicity only for the leachate of soil A (Mutatox). The results confirm the ecotoxicological relevance of the amphibian model and underscore the importance of bioassays, as a complement to physico-chemical data, for risk evaluation.
MESH HEADINGS: Animals
MESH HEADINGS: Comet Assay
MESH HEADINGS: DNA Damage
MESH HEADINGS: Environmental Monitoring
MESH HEADINGS: Erythrocytes/drug effects
MESH HEADINGS: Female
MESH HEADINGS: *Incineration
MESH HEADINGS: Industrial Waste/*adverse effects/analysis
MESH HEADINGS: Larva/drug effects
MESH HEADINGS: Luminescent Measurements
MESH HEADINGS: Male
MESH HEADINGS: Micronucleus Tests
MESH HEADINGS: Salmonella typhi/drug effects/growth &amp
MESH HEADINGS: development
MESH HEADINGS: Soil Pollutants/analysis/*toxicity
MESH HEADINGS: Vibrio fischeri/drug effects/metabolism
MESH HEADINGS: Water Movements
MESH HEADINGS: Xenopus laevis
LANGUAGE: eng

904. Moye, H. A. and Winefordner, J. D (1965). Phosphorimetric study of some common pesticides. *Journal of Agricultural and Food Chemistry* 13: 516-18.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1966:22645
Chemical Abstracts Number: CAN 64:22645
Section Code: 72
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Phosphorescence; Spectra, visible and ultraviolet (of pesticides); Pesticides (phosphorescence of)
Index Terms(2): Phenol Role: PREP (Preparation)
CAS Registry Numbers: 95-95-4 (Derived from data in the 7th Collective Formula Index (1962-1966); 56-38-2 (Phosphorothioic acid, O,O-diethyl O-p-nitrophenyl ester); 56-72-4 (Coumarin, 3-chloro-7-hydroxy-4-methyl-, O-ester with O,O-di-Et phosphorothioate); 63-25-2 (Carbamic acid, methyl-, 1-naphthyl ester); 64-00-6 (Carbamic acid, methyl-, m-cumenyl ester); 80-00-2 (Sulfone, p-chlorophenyl phenyl); 80-33-1 (Benzenesulfonic acid, p-chloro-, p-chlorophenyl ester); 90-15-3 (1-Naphthol); 93-76-5 (Acetic acid, (2,4,5-trichlorophenoxy)-); 94-75-7 (Acetic acid, (2,4-dichlorophenoxy); 100-02-7 (Phenol, p-nitro-); 106-48-9 (Phenol, p-chloro-); 115-32-2 (Benzhydrol, 4,4'-dichloro-a-(trichloromethyl)-); 116-29-0 (Sulfone, p-chlorophenyl 2,4,5-trichlorophenyl); 119-38-0 (Carbamic acid, dimethyl-, 1-isopropyl-3-methylpyrazol-5-yl ester); 140-57-8 (Sulfurous acid, 2-(p-tert-butylphenoxy)-1-methylethyl 2-chloroethyl ester); 143-50-0

(1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, decachlorooctahydro-); 299-84-3 (Phosphorothioic acid, O,O-dimethyl O-2,4,5-trichlorophenyl ester); 315-18-4 (Carbamic acid, methyl-, 4-(dimethylamino)-3,5-xylyl ester); 333-41-5 (Phosphorothioic acid, O,O-diethyl O-[2-isopropyl-6-methyl-4-pyrimidinyl) ester); 510-15-6 (Benzilic acid, 4,4'-dichloro-, ethyl ester); 732-11-6 (Phosphorodithioic acid, O,O-dimethyl ester S-ester with N-(mercaptomethyl)phthalimide); 961-22-8 (Phosphorothioic acid, O,O-dimethyl ester S-ester with 3-(mercaptomethyl)-1,2,3-benzotriazin-4(3H)-one); 1563-66-2 (Carbamic acid, methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester); 2032-59-9 (Carbamic acid, methyl-, 4-(dimethylamino)-m-tolyl ester); 2032-65-7 (Carbamic acid, methyl-, 4-(methylthio)-3,5-xylyl ester); 7173-84-4 (Phosphorothioic acid, S-[[(p-chlorophenyl)thio]methyl] O,O-diethyl ester); 8001-35-2 (Toxaphene) (phosphorescence of); 50-29-3P (Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)-); 72-54-8P (Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)-); 80-33-1P (Benzenesulfonic acid, p-chloro-, p-chlorophenyl ester); 8001-35-2P (Toxaphene) Role: PREP (Preparation) (prepn. of) The phosphorescence characteristics of 52 pesticides (including several known degradation products) are surveyed. Thirty-two of these phosphoresce sufficiently that excitation spectra, emission spectra, decay times, anal. curves, and limits of detection can be tabulated The other 20 compds. did not give detectable phosphorescence excitation and emission spectra for 10-2M ethanolic solns. [on SciFinder (R)] 0021-8561

905. Mumtaz, M. M., Knauf, L. A., Reisman, D. J., Peirano, W. B., DeRosa, C. T., Gombar, V. K., Enslein, K., Carter, J. R., Blake, B. W., and et al (1995). Assessment of effect levels of chemicals from quantitative structure-activity relationship (QSAR) models. I. Chronic lowest-observed-adverse-effect level (LOAEL). *Toxicology Letters* 79: 131-43.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:803360
Chemical Abstracts Number: CAN 123:248848
Section Code: 4-4
Section Title: Toxicology
CA Section Cross-References: 1
Document Type: Journal
Language: written in English.
Index Terms: Quantitative structure-activity relationship; Toxicity (chronic lowest-obsd.-adverse-effect level estn. by QSAR)
CAS Registry Numbers: 50-18-0 (Cyclophosphamide); 50-33-9 (Phenylbutazone); 50-55-5 (Reserpine); 54-31-9 (Furosemide); 56-38-2 (Parathion); 57-06-7 (Allylisothiocyanate); 58-93-5 (Hydrochlorothiazide); 59-87-0 (Nitrofurazone); 60-57-1 (Dieldrin); 61-76-7 (Phenylephrine hydrochloride); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 64-75-5 (Tetracycline hydrochloride); 67-20-9 (Nitrofurantoin); 67-45-8 (Furazolidone); 67-66-3 (Chloroform); 67-72-1 (Hexachloroethane); 69-53-4 (Ampicillin); 69-65-8 (D-Mannitol); 71-43-2 (Benzene); 71-55-6 (1,1,1-Trichloroethane); 72-43-5 (Methoxychlor); 75-09-2 (Dichloromethane); 75-25-2 (Bromoform); 75-27-4 (Bromodichloromethane); 75-35-4 (1,1-Dichloroethylene); 75-69-4 (Fluorotrichloromethane); 75-71-8 (Dichlorodifluoromethane); 75-99-0 (Dalapon); 76-01-7 (Pentachloroethane); 76-06-2 (Chloropicrin); 76-44-8 (Heptachlor); 78-59-1 (Isophorone); 78-87-5 (1,2-Dichloropropane); 79-01-6 (Trichloroethylene); 79-06-1 (Acrylamide); 79-34-5 (1,1,2,2-Tetrachloroethane); 80-05-7 (Bisphenol A); 80-62-6 (Methyl methacrylate); 81-07-2 (Saccharin); 83-79-4 (Rotenone); 84-66-2 (Diethylphthalate); 84-72-0 (Ethylphthalyl ethyl-glycolate); 85-44-9 (Phthalic anhydride); 85-68-7; 86-30-6 (n-Nitrosodiphenylamine); 87-62-7 (2,6-Xylidine); 87-68-3 (Hexachlorobutadiene); 87-84-3 (1,2,3,4,5-Pentabromo-6-chlorocyclohexane); 87-86-5 (Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 90-41-5 (2-Biphenylamine); 91-23-6 (o-Nitroanisole); 92-52-4 (1,1'-Biphenyl); 93-65-2 (2-(2-Methyl-4-chlorophenoxy) propionic acid); 93-76-5 (2,4,5-Trichlorophenoxy acetic acid); 94-75-7 (2,4-Dichlorophenoxy acetic acid); 95-50-1 (1,2-Dichlorobenzene); 95-53-4 (o-Toluidine); 95-57-8 (2-Chlorophenol); 95-70-5 (Toluene-2,5-diamine); 95-74-9 (3-Chloro-p-toluidine); 95-79-4 (5-Chloro-o-toluidine); 95-80-7 (2,4-

Diaminotoluene); 96-18-4 (1,2,3-Trichloropropane); 97-53-0 (Eugenol); 97-63-2 (Ethylmethacrylate); 98-85-1 (a-Methylbenzyl alcohol); 99-55-8 (2-Methyl-5-nitroaniline); 99-57-0 (2-Amino-4-nitrophenol); 99-59-2 (5-Nitro-o-anisidine); 100-21-0 (p-Phthalicacid); 100-40-3 (4-Vinylcyclohexene); 100-52-7 (Benzaldehyde); 101-21-3 (Chlorpropham); 101-61-1 (4,4'-Methylenebis-(n,n-dimethylaniline); 101-80-4 (4,4'-Oxydianiline); 101-90-6 (Diglycidylresorcinol ether); 103-23-1 (Di(2-ethylhexyl)adipate); 103-33-3 (Azobenzene); 103-69-5 (n-Ethylaniline); 103-90-2 (Acetaminophen); 105-60-2 (Caprolactam); 105-87-3; 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (p-Chloroaniline); 106-50-3 (p-Phenylenediamine); 107-06-2 (1,2-Dichloroethane); 107-07-3 (Chloroethanol); 107-15-3 (Ethylenediamine); 107-21-1 (Ethylene glycol); 108-31-6 (Maleic anhydride); 108-46-3 (Resorcinol); 108-78-1 (Melamine); 108-90-7 (Chlorobenzene); 108-91-8 (Cyclohexylamine); 108-95-2 (Phenol); 109-69-3 (1-Chlorobutane); 109-78-4 (Ethylene cyanohydrin); 111-90-0 (Diethylene glycol monoethyl ether); 113-92-8; 115-28-6; 115-96-8 (Tris(2-chloroethyl) phosphate); 117-81-7 (Di-2-ethylhexyl phthalate); 120-36-5 (Dichloroprop); 120-61-6 (Dimethyl terephthalate); 120-71-8 (p-Cresidine); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-14-2 (2,4-Dinitrotoluene); 121-69-7 (n,n-Dimethylaniline); 121-75-5 (Malathion); 121-79-9 (Propyl gallate); 121-82-4; 121-88-0 (2-Amino-5-nitrophenol); 122-39-4 (n,n-Diphenylamine); 123-31-9 (Hydroquinone); 123-33-1 (Maleic hydrazide); 124-48-1 (Dibromochloromethane); 127-18-4 (Tetrachloroethylene); 131-11-3 (Dimethyl phthalate); 131-17-9 (Diallylphthalate); 132-98-9 (Penicillin vk); 133-06-2 (Captan); 133-90-4 (Chloramben); 134-29-2 (o-Anisidine hydrochloride); 135-88-6 (n-Phenyl-2-naphthylamine); 136-77-6 (4-Hexylresorcinol); 137-09-7 (2,4-Diaminophenol dihydrochloride); 137-17-7 (2,4,5-Trimethylaniline); 138-86-3 (1-Methyl-4-(1-methylethenyl)-cyclohexene); 139-40-2 (Propazine); 140-11-4 (Benzyl acetate); 140-88-5 (Ethyl acrylate); 147-24-0 (Diphenhydramine hydrochloride); 148-18-5 (Sodium diethyl dithiocarbamate); 149-30-4 (2-Mercaptobenzothiazole); 150-68-5 (Monuron); 156-10-5 (p-Nitrosodiphenylamine); 271-89-6 (Benzofuran); 298-00-0 (o,o-Dimethyl-o,p-nitro-phenylphosphorothioate); 298-81-7 (8-Methoxypsoralen); 303-47-9 (Ochratoxin a); 309-00-2 (Aldrin); 319-84-6 (a-Hexachloro-cyclohexane); 330-55-2 (Linuron); 389-08-2 (Nalidixic acid); 396-01-0 (Triamterene); 479-73-2 (c.i. Basic red 9); 513-37-1 (Dimethyl vinyl chloride); 542-75-6 (1,3-Dichloropropene); 556-52-5 (Glycidol); 563-47-3 (3-Chloro-2-methylpropene); 597-25-1 (Dimethyl morpholino-phosphoramidate); 598-55-0 (Methylcarbamate); 609-20-1 (2,6-Dichloro-p-phenylene diamine); 612-82-8 (3,3'-Dimethylbenzidine dihydrochloride); 630-20-6 (1,1,1,2-Tetrachloroethane); 732-11-6 (Phosmet); 756-79-6 (Dimethylmethylphosphonate); 823-40-5 (Toluene-2,6-diamine); 828-00-2 (Dimethoxane); 842-07-9 (c.i. Solvent yellow 14); 846-50-4 (Temazepam); 886-50-0 (Terbutryn); 924-42-5 (n-Methylolacrylamide); 959-98-8 (a-Endosulfan); 1031-47-6 (Triamiphos); 1070-03-7 (1-Hexanol-2-ethyl phosphate); 1071-83-6 (Glyphosate); 1582-09-8 (Trifluralin); 1634-78-2; 1825-21-4 (Pentachloroanisole); 1836-75-5 (Nitrofen); 1861-32-1 (Dacthal); 1918-02-1 (Picloram); 1929-77-7 (Vernolate); 1936-15-8 (c.i. Acid orange 10); 2058-46-0 (Oxytetracycline hydrochloride); 2243-62-1 (1,5-Naphthalenediamine); 2310-17-0 (Phosalone); 2432-99-7 (11-Aminoundecanoic acid); 2475-45-8 (c.i. Disperse blue 1); 2784-94-3 (Hc blue no. 1); 2832-40-8 (c.i. Disperse yellow 3); 2835-39-4 (Allyl isovalerate); 2871-01-4 (Hc red no. 3); 2921-88-2 (Chlorpyrifos); 3567-69-9 (c.i. Acid red 14); 3761-53-3; 5160-02-1 (d And c red no. 9); 5234-68-4 (Carboxin); 6373-74-6 (c.i. Acid orange 3); 6923-22-4 (Monocrotophos); 12789-03-6 (Chlordane); 13552-44-8 (4,4'-Methylenedianiline dihydrochloride); 15299-99-7 (Napropamide); 17924-92-4 (Zearalenone); 19666-30-9 (Oxadiazon); 20265-97-8 (p-Anisidine hydrochloride); 20325-40-0 (3,3'-Dimethoxy-benzidine dihydrochloride); 21725-46-2 (Cyanazine); 22248-79-9; 23135-22-0 (Oxamyl); 23564-05-8 (Thiophanatemethyl); 24382-04-5; 26538-44-3 (Zeranol); 28249-77-6 (Thiobencarb); 33229-34-4; 33857-26-0 (2,7-Dichlorodibenzo-p-dioxin); 34014-18-1 (Tebuthiuron); 39638-32-9 (Bis(2-chloroisopropyl) ether); 39801-14-4 (Photomirex); 40487-42-1 (Pendimethalin); 41372-08-1; 43121-43-3 (Bayleton); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 52645-53-1 (Permethrin); 55285-14-8 (Carbosulfan); 55290-64-7 (Dimethipin); 59756-60-4 (Fluridone); 59820-43-8 (Hc yellow 4); 62476-59-9 (Sodium acifluorfen); 64902-72-3 (Chlorsulfuron); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Baythroid); 74223-64-6 (Ally); 76578-14-8 (Assure); 79277-27-3 (Harmony); 82558-50-7 (Isoxaben) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (chronic lowest-obsd.-adverse-effect level estn. by QSAR) Research was conducted to employ quant. structure-activity relationship (QSAR) techniques to study the feasibility of developing models to est. the noncarcinogenic toxicity of chems. that are not addressed in the literature by relevant studies. A database of lowest-obsd.-adverse-effect level (LOAEL) was assembled by extg. toxicity information from 104 U.S. EPA documents, 124 National Cancer Institute/National Toxicol. Program (NCI/NTP) reports, and 6 current reports from the literature. A regression model, based on 234 chems. of diverse structures and chem. classes including both alicyclic and arom. compds., was developed to assess the chronic oral LOAELs in rats. The model was incorporated into an automated computer package. Initial testing of this model indicates it has application to a wide range of chems. For about 55% of the compds. in the data set, the estd. LOAELs are within a factor of 2 of the obsd. LOAELs. For over 93%, they are within a factor of 5. Because of the paucity or absence of long-term toxicity data, the public health and risk assessment community could utilize such QSAR models to det. initial ests. of toxicity for the ever-increasing nos. of chems. that lack complete pertinent data. However, this and other such models should be used only by expert toxicologists who must objectively look at the ests. thus generated in light of the overall wt. of evidence of the available toxicol. information of the subject chem.(s). [on SciFinder (R)] 0378-4274 chem/ toxicity/ structure

906. Munoz-Carpena, R., Ritter, A., Socorro, A. R., and Perez, N. (2002). Nitrogen evolution and fate in a Canary Islands (Spain) sprinkler fertigated banana plot. *Agricultural Water Management* 52: 93-117.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Banana and other horticultural produce cultivation, together with the population increase, has led to coastal aquifer degradation in the Canary Islands. A detailed field study to track nitrogen degradation and transport through a banana plantation soil into the aquifer is presented. The main objective of the study is to understand and quantify the hydrological behavior of the system, and quantify nitrogen leaching. The hydrogeological study of the area shows that the thin terraced soil is set on top of several layers of fractured basalt down to a massive formation where the polluted aquifer is found. When water leaves the soil profile, it is likely to quickly percolate along the preferential paths (cracks) through the basaltic layers and it is intercepted by lateral interflow in a mixing ratio of 25% irrigation drainage plus 75% interflow, before it reaches the aquifer. The soil water balance shows that most of the drainage (18% of the total irrigation+rainfall) is produced during the crop highest water demand period and during the short rainy season when no irrigation is applied. Monitoring of the soil solution showed that very high nitrate concentrations (50-120 mg/l N---NO3) are present throughout the experimental period. The high water fluxes and nitrate concentration at the bottom of the soil profile produce a yearly loss of 48-52% of the total N applied (202-218 kg N/ha per year). Monitoring of water from springs below the experimental area shows that the nitrate lixiviates are diluted around 60% before reaching the aquifer, after mixing with the lateral flow. Smaller and more frequent applications of both N and water would help to reduce the environmental impact of the system. Ammonium/ Bananas/ Contaminant/ Environment/ Fertigation/ Hydrology/ Nitrate/ Pollution/ Volcanic soil/ Water/ Suction cups http://www.sciencedirect.com/science/article/B6T3X-4475JTN-1/2/e2c3b3d44c3900b8b5a6b257159f650f

907. Murthy, N. S. and Knox, J. R. (1976). Small-angle X-ray scattering studies of Escherichia coli-asparaginase. *Journal of Molecular Biology* 105: 567-575.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Small angle X-ray scattering studies on Escherichia coli-asparaginase solutions show that the enzyme has a radius of gyration of 34.0 A +/- 0.5 A at pH 7. The radius of gyration of the dissociated monomer is 16.0 A +/- 1.0 A; it has the general shape of a prolate ellipsoid with an axial ratio of 1.4. A tetramer of four such ellipsoids arranged with 222 symmetry gives good agreement between measured and calculated radii of gyration if the distance between subunit centers is 43 A. The tetramer dissociates on dilution below 1% and at pH values below 3.0. Acid-induced denaturation at pH 2.0 is irreversible in contrast to the reversible guanidine-HCl-induced denaturation. http://www.sciencedirect.com/science/article/B6WK7-4DN8VPN-BT/2/3fcc5b39f4df50f80ace66defa5ae77f

908. N&Uacute, &Ntilde, Ez-Delgado, A., L&Oacute, Pez-Periago, E., D&Iacute, and Az-Fierros Viqueira, F. (Chloride, Sodium, Potassium and Faecal Bacteria Levels in Surface Runoff and Subsurface Percolates From Grassland Plots Amended With Cattle Slurry. *Bioresour technol. 2002, may; 82(3):261-71. [Bioresource technology]: Bioresour Technol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, BACTERIA.

ABSTRACT: This study investigated the effectiveness of vegetated buffer strips for removing contaminants in runoff from grassed plots (slope 15%) after application of cattle slurry. Plots (8 x 8 m2 or 8 x 3 m2) received slurry or inorganic fertilizer, and then simulated rainfall (1, 7 and 21 days after slurry/fertilizer application); after each event, runoff and percolates were sampled at various distances downslope (2, 4, 6, and 8 m), and analysed for Cl-, Na+, K+ and faecal bacteria contents. Contaminant concentrations were markedly higher in runoff from the slurry-amended plots than in runoff from the fertiliser-amended plots. After the first rainfall event, some contaminant concentrations in runoff from the slurry-amended plots declined with distance downslope (i.e. with buffer strip width), supporting the relative efficacy of the strip for retaining pollutants. After the second and third rainfall events, by contrast, our results suggest remobilisation of contaminants retained during the first event. Faecal bacteria levels (especially streptococcus levels) remained high throughout the study, even in percolates and runoff collected 8 m downslope after the third rainfall event, and indeed even downslope of the adjacent fertilizer-amended plots (indicating lateral movement): this suggests that bacterial contamination may be the most significant risk arising from slurry application.
MESH HEADINGS: Agriculture
MESH HEADINGS: Animals
MESH HEADINGS: Cattle
MESH HEADINGS: Chlorine/*analysis
MESH HEADINGS: *Manure
MESH HEADINGS: Potassium/*analysis
MESH HEADINGS: Risk
MESH HEADINGS: Sodium/*analysis
MESH HEADINGS: Soil Pollutants/*analysis
MESH HEADINGS: Waste Disposal, Fluid/methods
MESH HEADINGS: Water Movements
MESH HEADINGS: Water Pollutants/analysis
LANGUAGE: eng

909. Nagayama, T., Kobayashi, M., Ito, M., Shioda, H., and Tomomatsu, T. (1996). Pesticide Residues in Imported Fruit Products. *Journal of the food hygienic society of japan* 37: 127-134.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM JOURNAL ARTICLE TOXICITY QUALITY FOOD INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD, FORMULATED
MESH HEADINGS: FOOD, FORTIFIED
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING

MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Food Technology-Preparation
KEYWORDS: Food Technology-Synthetic
KEYWORDS: Toxicology-Foods
KEYWORDS: Pest Control
LANGUAGE: jpn

910. Nagayama, T., Kobayashi, M., Ito, M., Tamura, Y., Shioda, H., and Tomomatsu, T. (1997). Pesticide Residues in Crops Labeled Cultivation With Reduced Application of Pesticide 1988.4-1995.3. *Journal of the food hygienic society of japan* 38: 464-469.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO SPECIES (DEAD).

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM JOURNAL ARTICLE
ORGANOPHOSPHORUS PESTICIDES FUNGICIDE INSECTICIDE FOOD CONTAMINANT
ORGANOCHLORINE PESTICIDES HERBICIDE CARBAMATE PESTICIDES
TOXICOLOGY FOODS CULTIVATION WITH REDUCED APPLICATION OF PESTICIDES
SPINACH LETTUCE CROWN DAISY JAPANESE HONEYWORT CUCUMBER MINI
TOMATO PIMENTO STRING PEA RADISH PEACH MANDARIN ORANGE
HORTICULTURE PESTICIDES VEGETABLE FRUIT
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-General
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
LANGUAGE: jpn

911. Nagayama, T., Kobayashi, M., Oto, M., Shioda, H., and Tomomatsu, T. (1996). Organophosphorus Pesticide Residues in Imported Cereal Products 1988-1994. *Journal of the food hygienic society of japan* 37: 411-417.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM JOURNAL ARTICLE
ORGANOPHOSPHORUS PESTICIDE RESIDUE IMPORTED CEREAL PRODUCT FOODS
FOOD SAFETY FOOD INDUSTRY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: CEREALS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING

MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-Cereal Chemistry
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-Foods
LANGUAGE: jpn

912. Nagayama, T., Kobayashi, M., Shioda, H., Ito, M., and Tamura, Y. (1995). Relationship Between Pesticide Residues in Fruit Peel and Flesh. *Journal of the food hygienic society of japan* 36: 383-392.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Pesticide residues in or on fruits and translocation of pesticide from the peel to the flesh were investigated. Except for water-soluble pesticides, the highest ratio of the concentration in the flesh to that in the peel was found with imidazole and phenoxy pesticides, followed by carbamate pesticides. Organochlorine and organophosphorus pesticides gave low ratios. The regression equation log (Cf)= -1.22+0.924 log (Cp) (gamma=0.892), where Cf is the pesticide concentration in flesh (ppm) and Cp is that in peel (ppm), was obtained for the relation between imazalil residues in lemon peel and flesh. The relation between the concentration ratio of the flesh to the peel and the pesticide solubility in water was given by: Cr = -0.99 + 2.41oncentration ratio (%) in the flesh and the peel and Sw is the pesticide solubility in water (mg).
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Food Technology-Preparation
KEYWORDS: Toxicology-Foods
KEYWORDS: Pest Control
LANGUAGE: jpn

913. Nagayama, T., Kobayashi, M., Shioda, H., and Tamura, Y. (1994). Pesticides Residues in Domestic Raw Agricultural Commodity. *Journal of the food hygienic society of japan* 35: 652-660.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM JOURNAL ARTICLE VEGETABLES FRUITS NUTS CEREALS CARBAMATE ORGANOPHOSPHORUS ORGANOCHLORINE FOOD
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: FOOD TECHNOLOGY

MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: CEREALS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Methods-General
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Cereal Chemistry
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-Foods
KEYWORDS: Pest Control
LANGUAGE: jpn

914. Nagayama, T., Maki, T., Kan, K., Iida, M., Tamura, Y., and Nishima, T. (1989). Residues of Organophosphorus Pesticides in Commercial Tea and Their Leaching Into Tea. *J pestic sci* 14: 39-46.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM INSECTICIDE FUNGICIDE FOOD INDUSTRY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: FERMENTATION
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Food Technology-Malts
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-Foods

KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: jpn

915. Naim, Mona M. and Abd El Kawi, Mervat A. (2003). Non-conventional solar stills Part 1. Non-conventional solar stills with charcoal particles as absorber medium. *Desalination* 153: 55-64.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

A solar still in which charcoal functions both as heat absorber medium and as wick has been constructed. The still presents a 15% improvement in productivity over wick-type stills, is cheap, simple to construct, and in addition has the advantages of low thermal capacity, lightweight and ease of operation. It is made of plastic outer rectangular body in which salt water is allowed to percolate through a charcoal bed of particles that extends the length of the still, and above which a glass plate is made to cover the still at an optimum distance from the charcoal bed. The still bottom is insulated by a suitable layer of sawdust and the still is mounted on a wooden frame of adjustable inclination. Factors such as size range of charcoal particles, brine flowrate, and still inclination to the horizontal have been investigated. It was found that at high flowrates both the coarse particles followed by the intermediate size gave the best productivities, whereas at moderate flowrates the finest charcoal gave the best result. At low flowrates, the three sizes gave practically comparable productivities. Desalination/ Solar energy/ Solar stills/ Solar still efficiency/ Charcoal wick http://www.sciencedirect.com/science/article/B6TFX-47XD1S7-1Y/2/624ae6dc173f557b03bf20644bed850a

916. Nakamura, M., Suzuki, T., Amano, K.-i., and Yamada, S (2001). Relation of sorption behavior of agricultural chemicals in solid-phase extraction with their n-octanol/water partition coefficients evaluated by high-performance liquid chromatography (HPLC). *Analytica Chimica Acta* 428: 219-226.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:23578
Chemical Abstracts Number: CAN 134:248248
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Hydrophobicity; Partition; Sorption (relation of sorption behavior of agricultural chems. in solid-phase extn. with their n-octanol/water partition coeffs. evaluated by high-performance liq. chromatog.); Extraction (solid-phase; relation of sorption behavior of agricultural chems. in solid-phase extn. with their n-octanol/water partition coeffs. evaluated by high-performance liq. chromatog.)
CAS Registry Numbers: 55-38-9P (Fenthion); 62-73-7P; 63-25-2P (Carbaryl); 82-68-8P (Quintozene); 97-17-6P (Dichlofenthion); 114-26-1P (Propoxur); 119-12-0P (Pyridafenthion); 121-75-5P (Malathion); 122-14-5P (Fenitrothion); 122-34-9P (Simazin); 137-26-8P (Thiram); 333-41-5P (Diazinon); 732-11-6P (Phosmet); 741-58-2P (Bensulide); 1129-41-5P (Metolcarb); 1194-65-6P (Dichlobenil); 1836-77-7P (Chlornitrofen); 1897-45-6P (Chlorothalonil); 2104-64-5P (EPN); 2425-10-7P (Xylylcarb); 2597-03-7P (Phenthoate); 2636-26-2P (Cyanofos); 2655-14-3P (Macbal); 2921-88-2P (Chlorpyrifos); 3766-81-2P (Fenocarb); 17109-49-8P (Edifenphos); 18854-01-8P (Isoxathion); 23950-58-5P (Propyzamide); 26087-47-8P (Iprobenfos); 27355-22-2P (Fthalide); 28249-77-6P (Thiobencarb); 34643-46-4P (Prothiofos); 36335-67-8P (Butamifos); 36734-19-7P (Iprodione); 40487-42-1P (Pendimethaline); 50512-35-1P (Isoprothiolane); 51218-49-6P (Pretilachlor); 55814-41-0P (Mepronil); 57018-04-9P (Tolclophos-methyl); 66063-05-6P (Pencycuron); 66332-96-5P (Flutolanil); 69327-76-0P (Buprofezin); 73250-68-7P (Mefenacet); 80844-07-1P (Ethofenprox) Role: PRP (Properties), PUR (Purification or recovery), PREP (Preparation) (relation of sorption behavior of agricultural chems. in solid-phase extn. with their

n-octanol/water partition coeffs. evaluated by high-performance liq. chromatog.)
Citations: 1) Riggin, R; Anal Chem 1979, 51, 210
Citations: 2) Tabor, M; Intern J Environ Anal Chem 1980, 8, 197
Citations: 3) Ahamd, J; Environ Sci Health 1982, B17, 253
Citations: 4) Muir, D; J Agric Food Chem 1985, 33, 518
Citations: 5) Kumano, M; Nagasaki-ken Eisei Kogai Kenkyusyoho 1987, 20, 42
Citations: 6) West, S; J Agric Food Chem 1990, 38, 315
Citations: 7) Yamada, N; Jpn J Toxicol Environ Health 1992, 38, 566
Citations: 8) Psathaki, M; J Chromatogr A 1994, 667, 241
Citations: 9) Jenkins, T; Anal Chim Acta 1994, 289, 69
Citations: 10) Gomez-Ariza, J; Analyst 1999, 124, 75
Citations: 11) Eskins, K; Anal Chem 1979, 51, 1885
Citations: 12) Sharp, B; J Clin Endocrinol Metab 1981, 52, 586
Citations: 13) Wong, S; Clin Biochem 1982, 15, 93/P5
Citations: 14) Finden, D; J Chrom Biomed Appl 1985, 342, 179
Citations: 15) Napoli, J; Methods Enzymol 1986, 123, 127
Citations: 16) Nakamura, G; J Forensic Sci 1987, 32, 535
Citations: 17) Alvarez, J; J Pharm Biomed Anal 1988, 6, 743
Citations: 18) Okumura, T; Chem Express 1992, 7, 373
Citations: 19) Award, J; J Allergy Clin Immunol 1994, 93, 817
Citations: 20) Rendl, J; Clin Chem 1994, 40, 908
Citations: 21) Neely, W; Environ Sci Technol 1974, 8, 113
Citations: 22) Briggs, G; J Agric Food Chem 1981, 29, 1050
Citations: 23) Swan, R; Res Rev 1983, 85, 17
Citations: 24) Geyer, H; Chemosphere 1984, 13, 269
Citations: 25) Konemann, H; Toxicology 1984, 19, 223
Citations: 26) Govers, H; Chemosphere 1984, 13, 227
Citations: 27) Organization for Economic, Cooperation and Development; OECD Guidelines for Testing of Chemicals, Section 1, Physical Chemical Properties 1981, 107
Citations: 28) Karger, B; J Chromatogr 1976, 128, 65
Citations: 29) Eadsforth, C; Chemosphere 1983, 12, 1456
Citations: 30) De Kock, A; Chemosphere 1987, 16, 133
Citations: 31) Organization for Economic, Cooperation and Development; OECD Guidelines for Testing of Chemicals, Section 1, Physical Chemical Properties 1989, 117
Citations: 32) Kanega, E; Environ Sci Technol 1980, 14, 553
Citations: 33) Leo, A; Chem Rev 1971, 71, 525
Citations: 34) Nyst, G; Chim Therap 1973, 8, 521
Citations: 35) Nakamura, M; Analyst 1996, 121, 469
Citations: 36) Godfrey, N; Chemetec 1972, 359
Citations: 37) Shoenmakers, J; J Chromatogr 1981, 218, 261
Citations: 38) Hammers, M; J Chromatogr 1982, 247, 1
Citations: 39) Shoenmakers, J; J Chromatogr 1983, 282, 261
Citations: 40) Lambert, W; J Chromatogr A 1993, 656, 469
Citations: 41) Braumann, T; J Chromatogr 1985, 350, 105 The HPLC method for the evaluation of the n-octanol/water partition coeffs. (Pow) of agricultural chems. was investigated, and the Pow values of 46 agricultural chems. were detd. by the proposed method. Then the sorption behavior of these chems. in solid-phase extn.(SPE) was investigated using eight different types of Sep Pak Plus cartridges and five eluents in the relation to these Pow values. The chems. with a log Pow below about 4.5 were completely retained onto the alkyl-modified silica and polystyrene cartridges, and easily eluted with any of the eluents except for n-hexane. The recovery of the chems. with higher Pow values decreased with the increase of Pow values due to incomplete elution, but the extent of elution could be improved by adding methanol to the sample soln. Moreover, by back flush elution the chems. with a log Pow below about 5.5 could be completely recovered without the addn. of methanol. However, in order for the complete elution of the extremely hydrophobic chems. the addn. of methanol was required even with the back flush. The results suggest that the Pow values evaluated with the HPLC method can be used as the most

useful key parameter for the selection of the key conditions in SPE. It is interesting that the cyanopropylated-silica cartridge can retain the more hydrophobic chems. so that it could be used for selective reversed-phase SPE for the extremely hydrophobic chems. [on SciFinder (R)] 0003-2670 sorption/ partition/ coeff/ agricultural/ chem/ HPLC

917. Nakamura, Motoshi, Nakamura, Masatoshi, and Yamada, Shinkichi (1996). Conditions for solid-phase extraction of agricultural chemicals in waters by using n-octanol-water partition coefficients. *Analyst (Cambridge, United Kingdom)* 121: 469-75.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:272442
Chemical Abstracts Number: CAN 124:298261
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (arom. org. and pesticide detn. in water by HPLC following solid-phase extn. relating compd. n-octanol-water partition coeffs. and extn. conditions); Aromatic compounds Role: ANT (Analyte), ANST (Analytical study) (arom. org. and pesticide detn. in water by HPLC following solid-phase extn. relating compd. n-octanol-water partition coeffs. and extn. conditions)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (arom. org. and pesticide detn. in water by HPLC following solid-phase extn. relating compd. n-octanol-water partition coeffs. and extn. conditions); 55-38-9 (Fenthion); 63-25-2 (Carbaryl); 71-43-2 (Benzene); 78-93-3 (Butan-2-one); 82-68-8 (Quintozene); 85-01-8 (Phenanthrene); 91-20-3 (Naphthalene); 93-58-3 (Methyl benzoate); 93-65-2 (Mecoprop); 93-89-0 (Ethyl benzoate); 93-99-2 (Phenyl benzoate); 95-47-6 (o-Xylene); 95-50-1 (o-Dichlorobenzene); 97-17-6 (Dichlofenthion); 98-86-2 (Acetophenone); 98-95-3 (Nitrobenzene); 100-41-4 (Ethylbenzene); 100-47-0 (Benzonitrile); 103-65-1 (Propylbenzene); 103-84-4 (Acetanilide); 104-51-8 (Butylbenzene); 106-42-3 (p-Xylene); 106-46-7 (1,4-Dichlorobenzene); 108-86-1 (Bromobenzene); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 114-26-1 (Propoxur); 120-51-4 (Benzyl benzoate); 120-82-1 (1,2,4-Trichlorobenzene); 122-14-5 (Fenitrothion); 206-44-0 (Fluoranthene); 462-06-6 (Fluorobenzene); 591-50-4 (Iodobenzene); 634-90-2 (1,2,3,5-Tetrachlorobenzene); 732-11-6 (Phosmet); 1129-41-5 (Metolcarb); 1194-65-6 (Dichlobenil); 1897-45-6 (Chlorothalonil); 2425-10-7 (Xylylcarb); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2655-14-3 (Macbal); 3337-71-1 (Asulam); 3766-81-2 (BPMC); 18854-01-8 (Isoxathion); 57018-04-9 (Tolclophos-methyl) Role: ANT (Analyte), ANST (Analytical study) (arom. org. and pesticide detn. in water by HPLC following solid-phase extn. relating compd. n-octanol-water partition coeffs. and extn. conditions) The solid-phase extn. behavior of 25 arom. compds. and 20 agricultural chems. was studied in a reversed-phase system using 8 Sep-Pak cartridges. Recovery was related closely to their n-octanol/water partition coeffs. Those compds. with high coeffs. were easily sorbed, but were difficult to elute. The extent of elution could be improved by adding CH_3OH to the sample soln. Results suggested the most important solid-phase extn. conditions for enrichment and sepn. can be selected approx. using the partition coeff. as a key parameter. The effect humic acid and surfactants on recovery was also studied. Suggested guidelines for efficient enrichment and sepn. by solid-phase extn. are presented. Some applications were tested and good results were obtained. [on SciFinder (R)] 0003-2654 arom/ compd/ detn/ water;/ agricultural/ chem/ detn/ water;/ solid/ phase/ extn/ org/ compd/ water

918. Nascu, Horea I., Hodisan, Teodor, and Cimpoiu, Claudia (1994). Comparative study of some chromatographic response function (CRF) used in LC and TLC optimization. A new weighted multiple CRF useful for TLC. *Studia Universitatis Babes-Bolyai, Chemia* 39: 167-177.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:734837
Chemical Abstracts Number: CAN 126:15825
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Optimization; Pesticides; TLC (chromatog. response function for optimization of TLC sepn. of pesticides)
CAS Registry Numbers: 86-50-0 (Azinphosmethyl); 298-00-0 (Wofatox); 732-11-6 (Phosmet); 2310-17-0 (Fosalon); 29232-93-7 (Pirimiphos-methyl) Role: ANT (Analyte), ANST (Analytical study) (chromatog. response function for optimization of TLC sepn. of pesticides) A new weighted chromatog. response function (CRF), contg. first and second degree terms, have been proposed and its application for the optimization of a ternary solvent system : benzene - petroleum ether - chloroform mixt., used for the sepn. of a five component pesticides mixt., was demonstrated. The comparison with some other CRFs was made. Including a greater no. of features of a good chromatogram the proposed function seems to be a safer one. [on SciFinder (R)] 0039-3401 pesticide/ sepn/ TLC/ chromatog/ response/ function

919. Neidert, Eli and Saschenbrecker, Peter W (1996). Occurrence of pesticide residues in selected agricultural food commodities available in Canada. *Journal of AOAC International* 79: 549-66.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY, CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:210573
Chemical Abstracts Number: CAN 124:259006
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food contamination; Fruit; Fruit and vegetable juices; Pesticides; Vegetable (occurrence of pesticide residues in selected agricultural food commodities available in Canada); Fruit; Vegetable (canned, occurrence of pesticide residues in selected agricultural food commodities available in Canada); Fruit (citrus, occurrence of pesticide residues in selected agricultural food commodities available in Canada); Canned foods (fruit, occurrence of pesticide residues in selected agricultural food commodities available in Canada); Canned foods (vegetables, occurrence of pesticide residues in selected agricultural food commodities available in Canada)
CAS Registry Numbers: 50-29-3 (DDT); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-55-9 (DDE); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 99-30-9 (Dichloran); 101-21-3 (Chlorpropham); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 133-07-3 (Folpet); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 886-50-0 (Terbutryn); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2136-79-0 (Chlorthal); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 12789-03-6 (Chlordane); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13457-18-6 (Pyrazophos); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18181-80-1 (Bromopropylate); 23135-22-0

(Oxamyl); 23950-58-5 (Pronamide); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 36734-19-7 (Iprodione); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 52645-53-1 (Permethrin); 57837-19-1 (Metalaxyl) Role: BOC (Biological occurrence), BSU (Biological study, unclassified), BIOL (Biological study), OCCU (Occurrence) (occurrence of pesticide residues in selected agricultural food commodities available in Canada) During the 27-mo period between Jan. 1, 1992, and Mar. 31, 1994, Agriculture and Agri-Food Canada analyzed 21,982 samples of fruit and vegetable commodities for pesticide residues. A multiresidue method capable of detecting over 200 analytes was used. In 5784 domestic samples a total of 676 residue findings were made. Of these, 32 (0.55%) were in violation of Canadian Max. residue limits (MRLs). In 16,198 imported products, 464 of 3193 residue findings exceeded MRLs, corresponding to a violation rate of 2.86%. One-half of domestic violations resulted from commodity-pesticide combinations for which these are no Canadian approvals. [on SciFinder (R)] 1060-3271 pesticide/ residue/ food/ commodity/ Canada

920. Neidert, Eli, Trotman, Raymond B., and Saschenbrecker, Peter W (1994). Levels and incidences of pesticide residues in selected agricultural food commodities available in Canada. *Journal of AOAC International* 77: 18-33.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:215621
Chemical Abstracts Number: CAN 120:215621
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Food contamination (by pesticides, in Canada); Pesticides (of food of Canada); Actinidia chinensis; Almond; Apple; Apple juice; Asparagus; Banana; Bean; Beet; Blueberry; Broccoli; Brussels sprout; Cabbage; Carrot; Catsup; Cauliflower; Celery; Chestnut; Corn; Cranberry; Cucumber; Cucurbita pepo melopepo; Eggplant; Fruit and vegetable juices; Grape; Grape juice; Grapefruit; Hazel; Lemon; Lettuce; Lime; Mango; Melon; Mushroom; Nut; Onion; Orange; Parsnip; Pea; Peach; Peanut; Pear; Pecan; Pepper; Pineapple; Plum; Potato; Raspberry; Rhubarb; Rutabaga; Spinach; Strawberry; Tomato; Tomato juice; Tomato paste, puree, and sauce; Walnut (pesticides of, of Canada); Mandarin orange (Clementine, pesticides of, of Canada); Pea (P. sativum macrocarpon, pesticides of, of Canada); Cauliflower (green, pesticides of, of Canada); Beet; Carrot; Celery; Prune (juice, pesticides of, of Canada); Mandarin orange (tangerine, pesticides of, of Canada)
CAS Registry Numbers: 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 99-30-9 (Dichloran); 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 298-02-2 (Phorate); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 5103-71-9 (cis-Chlordane); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 16752-77-5 (Methomyl); 23135-22-0 (Oxamyl); 30560-19-1 (Acephate); 36734-19-7 (Iprodione); 50471-44-8 (Vinclozolin); 52645-53-1 (Permethrin) Role: OCCU (Occurrence) (of food of Canada) During the 32 mo period ending Dec. 31, 1991, Agriculture Canada analyzed 13,230 samples of agricultural food commodities for pesticide residues. Both domestic and imported commodities were tested. A multiresidue method that can detect over 200 analytes was routinely used. Results in violation of Canadian tolerances were discerned in 224 samples. An addnl. 2501 samples contained at least one pesticide residue at a detectable but nonviolative level. Violations most often result from pesticide-commodity combinations for which there is no established specific tolerance. [on SciFinder (R)] 1060-3271 pesticide/ food/ Canada

921. Nelson, N. O. and Mikkelsen, R. L. (2006). Polyethersulfone Membrane Filters for Sampling Soil Water From in Situ Soils and Intact Soil Columns for Phosphate Analysis. *Communications in Soil Science and Plant Analysis, 37 (3-4) pp. 377-388, 2006*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

ISSN: 0010-3624
Descriptors: Suction lysimeter
Descriptors: Soil water sampling
Descriptors: Leachate collection
Descriptors: Phosphorus leaching
Descriptors: Soil solution
Abstract: Porous plates or cups are commonly used to collect soil solution samples in field studies or from intact soil columns. Some commonly used materials for porous plates may adsorb soil solution constituents such as phosphorus (P). An alternative to using a porous plate is to use a membrane filter with a known pore size and bubble point. The objective of this study was to evaluate the utility of polyethersulfone membranes (pore size 0.45 (mu)m and bubble point >200 kPa) to extract soil solution from in situ soils and intact soil columns for phosphate analysis. In situ soil solution samplers were constructed from modified reusable polysulfone membrane filter holders equipped with polyethersulfone membranes (47 mm diameter). A -10 kPa vacuum was maintained in the samplers, which enabled soil solution collection at soil water potentials of 0 to -4 kPa in loamy sand, 0 to -10 kPa in sandy loam, and 0 to -12 kPa in sandy clay loam soils. In a laboratory study, soil solution samplers continued to hold a vacuum to -77 kPa soil water potential. Soil solution samplers were further evaluated in a field study at 45-, 90-, and 135-cm depths in two soils. Samplers operated with relatively few difficulties for the first 12 months of field evaluation. Membranes apparently dried during periods of low soil water potential but increases in soil moisture were sufficient to rewet the membrane. Sampler failures in the field increased during 13-18 months because aged vacuum tubing and root interferences with samplers at 45 cm. Improvements in sampler design may improve the durability for implementation in long-term field experiments. Membrane filters worked near flawlessly to maintain unsaturated conditions in intact soil columns. The filter units facilitated easy collection of soil water from the intact soil columns without altering the chemical composition of the percolate. Copyright (copyright) Taylor & Francis Group, LLC.
20 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science
Subfile: Plant Science

922. Nelson, N. O. and Parsons, J. E. (2006). Modification and Validation of Gleams for Prediction of Phosphorus Leaching in Waste-Amended Soils. *Transactions of the ASABE, 49 (5) pp. 1395-1407, 2006*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, MODELING.

ISSN: 0001-2351
Descriptors: Desorption
Descriptors: GLEAMS
Descriptors: Long-term waste applications
Descriptors: Model validation
Descriptors: Phosphorus leaching
Descriptors: Sorption
Descriptors: Swine lagoon liquid
Abstract: Excess phosphorus applied to soils with low P adsorption capacities can enter surface water via leaching and subsurface transport, thereby negatively impacting water quality. Computer

simulation models can be used to describe the effects of management practices on P leaching losses, provided the models are appropriately validated. The objectives of this research were to modify and validate P subroutines in the GLEAMS (Groundwater Loading Effects of Agricultural Management Systems) model to more accurately reflect P sorption and desorption, and then use the modified model to determine crop and waste management effects on long-term P leaching losses below the root zone of a grazed pasture with >20-year history of swine lagoon liquid application and considerable P buildup in the soil profile. GLEAMS was modified with the Langmuir equation to partition labile P between adsorbed and solution phases. The modification improved predictions of percolate P concentrations and soil P accumulation in acid sandy soils receiving waste-based P additions. The modification also increased model sensitivity to changes in crop and P management. The modified model predicted that P-based swine lagoon liquid applications would decrease P leaching by >20 kg ha⁻¹ year ⁻¹ compared to N-based applications. Eliminating all P applications decreased the predicted P leaching losses by less than 1 kg ha⁻¹ year⁻¹ compared to P-based swine lagoon liquid application. Results show that P can continue leaching from P-saturated soils even in the absence of P additions. (copyright) 2006 American Society of Agricultural and Biological Engineers.
48 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science
Subfile: Plant Science

923. Nemoto, S., Takatsuki, S., Sasaki, K., and Toyoda, M. ([Studies on the Stability of 89 Pesticides in Organic Solvent]. *Kokuritsu iyakuhin shokuhin eisei kenkyusho hokoku. 1997(115):86-92. [Kokuritsu iyakuhin shokuhin eisei kenkyujo hokoku = bulletin of national institute of health sciences]: Kokuritsu Iyakuhin Shokuhin Eisei Kenkyusho Hokoku*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: The stability of 89 pesticides (17 organochlorine, 33 organophosphorus, 8 pyrethroid, 12 carbamate, and 19 other pesticides) in 6 kinds of organic solvents (methanol, ethanol, 2-propanol, ethyl acetate, n-hexane, and acetone) was investigated using gas chromatography/mass spectrometry (GC/MS). All of the investigated pesticides were stable in all of the tested organic solvents during storage for 6 hours at room temperature in the dark except captafol, captan, phosmet, chinomethionat, and dicofol. However, the decreases of captafol, captan, phosmet, and chinomethionat were observed in methanol. The decreases of captafol, captan, and phosmet were also observed in ethanol. Moreover, the decrease of dicofol was observed in acetone. The decrease of captafol dissolved in methanol at a concentration of 2 micrograms/ml was faster than those of captan, phosmet, and chinomethionat; the residual captafol was 75% after 30 min of storage. Dicofol dissolved in acetone also decreased during storage in a refrigerator. 4,4'-dichlorobenzophenone (DCBP) and chlorobutanol were detected in the acetone solution of dicofol after storage. Furthermore, it was found that dicofol was decomposed by acetone at an injection port, and DCBP and chlorobutanol were formed when it was injected into GC with acetone.
MESH HEADINGS: Carbamates
MESH HEADINGS: Drug Stability
MESH HEADINGS: Gas Chromatography-Mass Spectrometry
MESH HEADINGS: Insecticides
MESH HEADINGS: Organophosphorus Compounds
MESH HEADINGS: *Pesticides
MESH HEADINGS: Pyrethrins
MESH HEADINGS: Solvents
LANGUAGE: jpn

924. Nemoto, Satoru, Sasaki, Kumiko, Toyoda, Masatake, and Saito, Yukio (1997). Effect of extraction conditions and modifiers on the supercritical fluid extraction of 88 pesticides. *Journal of Chromatographic Science* 35: 467-477.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1997:661615
Chemical Abstracts Number: CAN 127:315706
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (effect of extn. conditions and modifiers on the supercrit. fluid extn. of pesticides); Extraction (supercrit.; effect of extn. conditions and modifiers on the supercrit. fluid extn. of pesticides)
CAS Registry Numbers: 124-38-9 (Carbon dioxide) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (effect of extn. conditions and modifiers on the supercrit. fluid extn. of pesticides)
Citations: 1) Richter, B; Emerging Strategies for Pesticide Analysis 1992, 51
Citations: 2) King, J; J AOAC Int 1992, 75, 375
Citations: 3) Camel, V; J Chromatogr 1993, 642, 263
Citations: 4) Janda, V; J Chromatogr 1993, 642, 283
Citations: 5) Janda, V; J Chromatogr 1989, 479, 200
Citations: 6) van der Velde, E; J Chromatogr 1992, 626, 135
Citations: 7) Locke, M; J Agric Food Chem 1993, 41, 1081
Citations: 8) Wuchner, K; Analyst 1993, 118, 11
Citations: 9) Fahmy, T; Anal Chem 1993, 65, 1462
Citations: 10) King, J; J AOAC Int 1993, 76, 857
Citations: 11) King, J; J Chromatogr Sci 1993, 31, 1
Citations: 12) Howard, A; J Chromatogr Sci 1993, 31, 323
Citations: 13) Skopec, Z; J Chromatogr Sci 1993, 31, 445
Citations: 14) Lehotay, S; J AOAC Int 1995, 78, 445
Citations: 15) Valverde-Garcia, A; J AOAC Int 1995, 78, 867
Citations: 16) Lopez-Avila, V; J Chromatogr Sci 1990, 28, 468
Citations: 17) Hopper, M; J Assoc Off Anal Chem 1991, 74, 661
Citations: 18) Snyder, J; J Chromatogr Sci 1993, 31, 183
Citations: 19) Lehotay, S; J AOAC Int 1995, 78, 821
Citations: 20) Aharonson, N; J Agric Food Chem 1994, 42, 2817
Citations: 21) Alzaga, R; J Agric Food Chem 1995, 43, 395
Citations: 22) Howard, A; J High Res Chromatogr 1993, 16, 39
Citations: 23) Ashraf-Khorassani; Am Lab 1995, December, 23
Citations: 24) Langenfeld, J; Anal Chem 1994, 66, 909
Citations: 25) Oostdyk, T; J Chromatogr Sci 1993, 31, 177
Citations: 26) Mulcahey, L; Anal Chem 1992, 64, 2352
Citations: 27) Taylor, L; Supercritical Fluid Extraction 1996, 84
Citations: 28) Snyder, L; J Chromatogr Sci 1978, 16, 223
Citations: 29) Honma, H; High Performance Liquid Chromatography Handbook 1985, 103
Supercrit. fluid extn. (SFE) conditions for multiresidue anal. of pesticides are evaluated using diatomaceous earth (Celite) spiked with 88 pesticides (16 organochlorine, 33 organophosphorus, 8 pyrethroid, 12 carbamate, and 19 other pesticides). The SFE parameters considered are CO2 d., CO2 flow rate, extn. temp., static and dynamic extn. times, trap temp., and addn. of modifier. SFE without modifier is insufficient to ext. polar pesticides from fortified Celite. The addn. of water to Celite is most effective in enhancing the recoveries of pesticides. Methanol is also an effective modifier, but the recovery of captafol, captan, phosmet, and chinomethionat decreases as time

goes on after the addn. of methanol. The best obtained conditions of SFE (2.0 g sample) are as follows: 0.40 mL water as a modifier, 0.70 g/mL CO2 d., 50 Deg extn. temp., 2.0 mL/min CO2 flow rate, 3.0 min static extn. and 20.0 min dynamic extn. The extd. pesticides are collected on an octadecylsilane trap at 30 Deg. Quant. anal. of the 88 pesticides is performed by gas chromatog.-mass spectrometry using the selected ion monitoring mode. Recoveries from fortified Celite are >90% for 79 pesticides and >70% for the other pesticides, except acephate, methamidophos, and propamocarb. The relative std. deviations of the recoveries are <5% for almost all of the pesticides. [on SciFinder (R)] 0021-9665 supercrit/ fluid/ extn/ pesticide

925. Neuhold, J. M. (1987). The Relationship of Life History Attributes to Toxicant Tolerance in Fishes. *Environ.Toxicol.Chem.* 6: 709-716.
Chem Codes: EcoReference No.: 68899
Chemical of Concern:
BNZ,CBL,Se,DDT,AND,NH,ATZ,CHD,Cu,DLD,ES,EN,HPT,HCCH,PRN,PCP,TXP,Zn,PSM,MP Rejection Code: REFS CHECKED/REVIEW.

926. New, J. C Jr (1993). The Reported Use of Drugs to Prevent Diseases in Beef Cattle in Tennessee. Au - Kelch Wj. *Prev vet med* 15: 291-302.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The National Animal Health Monitoring System (NAHMS) (Round 2) for Tennessee collected baseline data on the preventive (as opposed to therapeutic) use of drugs from 60 beef cow-calf herds selected by a random, stratified, two-stage sampling plan. Counties were selected randomly with replacement for three herd-size strata, and herds were selected within counties by an area-frame method. Data were collected during monthly interviews for 1 year (1987-1988). Tennessee beef cattle were medicated with 31 drugs to prevent diseases. The drugs most frequently used were anthelmintics and insecticides. The diseases against which preventive drugs were most frequently used were external parasites, intestinal parasites, 'pink eye' (keratoconjunctivitis), anaplasmosis, and respiratory infections. Ivermectin was the most frequently used anthelmintic and the most frequently used drug. Levamisole, fenbendazole, and thiabendazole were also frequently used anthelmintics. The most frequentl
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: THERAPEUTICS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: MEAT
MESH HEADINGS: MEAT PRODUCTS
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: PHARMACOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: PUBLIC HEALTH ADMINISTRATION
MESH HEADINGS: STATISTICS
MESH HEADINGS: ANIMAL DISEASES/PATHOLOGY
MESH HEADINGS: ANIMAL DISEASES/PHYSIOPATHOLOGY
MESH HEADINGS: ANIMAL DISEASES/MICROBIOLOGY
MESH HEADINGS: ARTIODACTYLA
MESH HEADINGS: HOMINIDAE
KEYWORDS: Biochemical Studies-General
KEYWORDS: Pathology
KEYWORDS: Food Technology-Meats and Meat By-Products

KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Pharmacology-General
KEYWORDS: Toxicology-Foods
KEYWORDS: Public Health-Public Health Administration and Statistics
KEYWORDS: Veterinary Science-Pathology
KEYWORDS: Veterinary Science-Microbiology
KEYWORDS: Bovidae
KEYWORDS: Hominidae
LANGUAGE: eng

927. Newsome, W. Harvey, Doucet, Josee, Davies, David, and Sun, W. F (2000). Pesticide residues in the canadian market basket survey-1992 to 1996. *Food Additives and Contaminants* 17: 847-854.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:700350
Chemical Abstracts Number: CAN 133:349350
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Cheese (Cheddar; pesticide residues in Canadian market basket survey-1992 to 1996); Liquid chromatography (adsorption; pesticide residues in Canadian market basket survey-1992 to 1996); Fish; Fish (canned; pesticide residues in Canadian market basket survey-1992 to 1996); Meat (chicken; pesticide residues in Canadian market basket survey-1992 to 1996); Bakery products (cookies; pesticide residues in Canadian market basket survey-1992 to 1996); Canned foods; Canned foods (fish; pesticide residues in Canadian market basket survey-1992 to 1996); Mass spectrometry; Mass spectrometry (gas chromatog. combined with; pesticide residues in Canadian market basket survey-1992 to 1996); Milk substitutes (human, soy-based; pesticide residues in Canadian market basket survey-1992 to 1996); Milk substitutes (human; pesticide residues in Canadian market basket survey-1992 to 1996); Food (infant; pesticide residues in Canadian market basket survey-1992 to 1996); Gas chromatography; Gas chromatography (mass spectrometry combined with; pesticide residues in Canadian market basket survey-1992 to 1996); Apple; Blueberry; Broccoli; Butter; Celery; Cherry; Chocolate; Cucumber; Fish; Food analysis; Food contamination; Fruit; Gel permeation chromatography; Liquid chromatography; Milk; Peach; Peanut butter; Pepper; Plum; Potato; Prune; Raisin; Strawberry (pesticide residues in Canadian market basket survey-1992 to 1996); Fungicides; Pesticides (residues; in Canadian market basket survey-1992 to 1996); Extraction (solid-phase; pesticide residues in Canadian market basket survey-1992 to 1996)
CAS Registry Numbers: 50-29-3; 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (HCB); 121-75-5 (Malathion); 122-34-9 (Simazine); 133-06-2 (Captan); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 315-18-4 (Mexacarbate); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 789-02-6; 944-22-9 (Fonofos); 950-37-8 (Methidation); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1746-81-2 (Monolinuron); 1861-32-1 (Chlorthal-dimethyl); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 5103-71-9 (a-Chlordane); 5103-74-2 (g-Chlordane); 8065-36-9 (Bufencarb); 10265-92-6 (Methamidophos); 13071-79-9 (Terbuphos); 16655-82-6 (3-HydroxyCarbofuran); 16709-30-1 (3-Ketocarbofuran); 16752-77-5 (Methomyl); 18181-80-1 (Bromopropylate); 22248-

79-9 (Tetrachlorvinphos); 23135-22-0 (Oxamyl); 27304-13-8 (Oxychlordane); 32809-16-8 (Procymidone); 36734-19-7 (Iprodione); 39765-80-5 (trans-Nonachlor); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticide residues in Canadian market basket survey-1992 to 1996)
Citations: Conacher, H; Canadian Institute of Food Science and Technology Journal 1989, 22, 322
Citations: El-Zemaity, M; Bulletin of Environmental Contamination and Toxicology 1988, 40, 74
Citations: Government Of Canada; Health and the Environment, Cat H49-112/1997E 1997
Citations: Gunderson, E; Journal of AOAC International 1995, 78, 910
Citations: Hardy, G; The Australian market basket survey 1996 1998
Citations: Mondy, N; Journal of Agricultural and Food Chemistry 1992, 40, 197
Citations: Nakagawa, R; Journal of AOAC International 1995, 78, 921
Citations: Neidert, E; Journal of AOAC International 1996, 79, 549
Citations: Newsome, W; Journal of AOAC International 1993, 76, 381
Citations: Newsome, W; Journal of AOAC International 1995, 78, 1312
Citations: Newsome, W; Food Additives and Contaminants 1998, 15, 19
Citations: Page, M; Journal of AOAC International 1992, 75, 1073
Citations: Ripley, B; Journal of AOAC International 2000, 83, 196
Citations: Schattenberg, H; Journal of AOAC International 1996, 79, 1447
Citations: Urieta, I; Food Additives and Contaminants 1996, 13, 29
Citations: Yess, N; Journal of AOAC International 1993, 76, 492 Market basket food samples from 6 Canadian cities collected from 1992 to 1996 were analyzed for pesticide residues. One hundred and thirty-six composites were prepd. for each city, representing 99% of the Canadian diet. Residues were found most frequently in peanut butter and butter. DDE, malathion and captan occurred most frequently, while the fungicides chlorothalonil, dicloran and captan were present in the highest concns. Processed commodities contained fewer residues and at lower concns. than the raw products. No residues were detected in either milk or soy-based infant formula. Of the infant foods sampled, fruit contained both the greatest no. and highest concns. of pesticides. [on SciFinder (R)] 0265-203X pesticide/ residue/ Canadian/ food/ market

928. Nielsen, B. H., Wuertz, H., and Holst, E. (1994). Endotoxin and Microorganisms in Percolate Derived From Compostable Household Waste. *American journal of industrial medicine* 25: 121-122 .
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Health related problems among Danish garbage collectors have been reported. Separated compostable household waste was analyzed for endotoxin and microorganisms in an experimental study. Aerosols and liquid (percolate) from the waste were sampled over two 14-day periods during storage in containers.
MESH HEADINGS: LIPIDS
MESH HEADINGS: CARBOHYDRATES
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: BACTERIA/PHYSIOLOGY
MESH HEADINGS: BACTERIA/METABOLISM
MESH HEADINGS: BACTERIA
MESH HEADINGS: MYCOSES
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BACTERIA
MESH HEADINGS: FUNGI
MESH HEADINGS: HOMINIDAE
KEYWORDS: Biochemical Studies-Lipids

KEYWORDS: Biochemical Studies-Carbohydrates
KEYWORDS: Toxicology-General
KEYWORDS: Physiology and Biochemistry of Bacteria
KEYWORDS: Medical and Clinical Microbiology-Bacteriology
KEYWORDS: Medical and Clinical Microbiology-Mycology
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Bacteria-General Unspecified (1992-)
KEYWORDS: Fungi-Unspecified
KEYWORDS: Hominidae
LANGUAGE: eng

929. Nielsen, B. H., Wurtz, H., Holst, E., and Breum, N. O. (1998). Microorganisms and Endotoxin in Stored Biowaste Percolate and Aerosols. *Waste management & research* 16: 150-159.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY, BACTERIA.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Source separated biowaste was stored in containers at temperatures ranging from 16ęC to 29ęC in a climate chamber for two weeks, simulating outdoor storage in a domestic waste collection system. Samples of exuded percolate were collected after 3, 4, 6, 8, 10, 12 and 14 days and analyzed for content of microorganisms and endotoxin. Throughout the storage period, the mean concentrations (GM) of total microorganisms ranged from 5.0 to 12 of endotoxin were between 0.54 and 1.530 mug ml-1). The maximum levels of microorganisms and endotoxin in the percolate were stable during storage and no significant difference was found between storage times of one or two weeks, which corresponds to common Danish collection frequencies of biowaste. Analyses of the microflora indicated dominance of bacteria as demonstrated by almost equal concentrations obtained by aerobic and anaerobic cultivation (2.8 to 9.0to 12t of the microflora (below 0.5% of the total number of microorganisms) and m
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: MICROBIOLOGY
MESH HEADINGS: BACTERIA/PHYSIOLOGY
MESH HEADINGS: BACTERIA/METABOLISM
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BACTERIA
MESH HEADINGS: FUNGI
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Microorganisms
KEYWORDS: Physiology and Biochemistry of Bacteria
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Bacteria-General Unspecified (1992-)
KEYWORDS: Fungi-Unspecified
LANGUAGE: eng

930. Nikolaidis, N. P., Chheda, P., Lackovic, J. A., Guillard, K., Simpson, B., and Pedersen, T. (1999). Nitrogen Mobility in Biosolid-Amended Glaciated Soil. *Water environment research* 71: 368-376.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The potential leaching and availability of nitrogen in biosolids and biosolid-amended glaciated soil were investigated using mineralization and column studies. Aerobic and anaerobic mineralization studies were conducted to assess nitrogen mineralization potential from biosolid-amended glaciated soils and estimate long- and short-term mineralization rates of products. Semicontinuous column studies were conducted to assess the leachability of nitrogen from biosolid-amended soil under simulated uns uct had the greatest mineralization potential (based on unmixed biosolids) at 5 317 mg N/kg, followed by compost (324 mg N/kg) and CKD biosolids (58 mg N/kg). Nitrogen mineralized for the anaerobic test (mixed with soil) varied from 56 to 90% of the total nitrogen and for the aerobic test varied from 19 to 57%. The CKD biosolids percolate consisted primarily of nitrate and nitrite, whereas the predominant nitrogen species found in compost and pellet biosolids percolate was ammoni
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: GASES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: SOIL
KEYWORDS: General Biology-Conservation
KEYWORDS: Biochemistry-Gases (1970-)
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
LANGUAGE: eng

931. Nishiyama, K., Kida, K., and Usuya, S. (Examination of Methods for the Evaluation of Inhaled Pesticide Concentrations. *Nippon noson igakkai zasshi (j. Jpn. Assoc. Rural med.) 29(3): 562-563 1980.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. The accurate measurement of respired amounts of inhaled pesticides was improved by connecting a twin cartridge face-mask to a gas-meter. The apparatus was utilized to determine amounts of inhaled pesticides in 2 field trials; one in an apple orchard where diazinon was being used, and another in a rice paddy where phosmet was being used. The results were compared to data obtained by an impinger collection apparatus. The pesticide was collected on micron-filter pads placed in the face-masks. The collected pesticide was removed from the filter pad by chloroform washing and measured by gas chromatography. The amount of pesticide collected divided by the respiration rate was calculated to be the concentration of respired pesticide. The amount of pesticide collected divided by the time period of application was calculated to be the amount of inhaled pesticide/unit time. Results were generally higher when determined by the filter pad method than when determined by the impinger method. Respired phosmet was 0.914 mg/m3 as determined by the filter pad collection data and 0.952 mg/m3 by impinger collection data. Respired diazinon was calculated to be 0.090 mg/m3 from filter pad data and 0.053 mg/m3 from inpinger collection data.
LANGUAGE: jpn

932. Nishiyama, K. and Usitani, S. (Examination of the Methods for Determining the Concentration of Pesticidal Dust in Inhaled Air. *Nippon eiseigaku zasshi (jpn. J. Hyg.) 36(1): 444 1981 (1 reference).*
Chem Codes: Chemical of Concern: PSM Rejection Code: METHODS.

ABSTRACT: PESTAB. A method for determining the concentration of pesticide dust in inhaled air was studied using 3% phosmet dust and fenitrothion emulsive concentrate diluted 500-fold. At first, the air containing the dust was suctioned through a holder provided with a filter pad and a millipore glass filter; collecting efficiency was measured by the amount of dust collected on the filter pad and the amount of dust to pass through the millipore filter. Results obtained by the conventional impinger method were compared with results obtained by pad method. Using a commercial dust-prevention mask provided with a filter pad, the concentration of the aerial dust was determined. A high dust-collection efficiency was obtained: 30 l/min dust on the filter pad and 5.5 mg dust on the millipore glass filter, corresponding to aerial concentrations of 2.083

mg/m3 and 0.005 mg/m3, respectively (collecting efficiency 99.8%). Results were similar to those obtained by the conventional method of using impinger. In determining aerial mist of diluted emulsion concentrate, results were similar.
LANGUAGE: jpn

933. Niu, L. M. and Ohba, H. (2001). Taxonomic Studies of Deutzia (Saxifragaceae, S. L.) In Japan 2. Pollen Grains. *Journal of Japanese Botany, 76 (2) pp. 84-95, 2001*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0022-2062
Descriptors: Correlation between pollen size and ploidy level
Descriptors: Deutzia
Descriptors: Pollen morphology
Descriptors: Taxonomy
Abstract: The morphology, exine structure, size and fertility of the pollen grains of 8 species, 5 varieties and 1 form of the genus Deutzia from Japan were examined with light and scanning electron microscopy. The results indicated that the pollen grains are 3-colporate, prolate spheroidal or subprolate, semitectate, reticulate or microreticulate with tectum, and the shape, tectum-pattern and structure of pore of the pollen grains are similar in all examined taxa. The pollen grains have a high stainability over 90 %. A correlation between the pollen size and the ploidy level was found. The value of pollen characters for taxonomic purposes and position of taxa studied on Deutzia were discussed.
11 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Japan
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Subfile: Plant Science

934. Noda, Haruhiko (1955). Physico-chemical studies on the soluble collagen of rat-tail tendon. *Biochimica et Biophysica Acta* 17: 92-98.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

From an extraction solution of rat-tail tendon with dilute acetic acid, a major protein component which was assumed to be responsible for reprecipitating striated fibers was purified. By measuring sedimentation constant, viscosity and diffusion constant, its molecular weight and shape were calculated. The molecular weight was found to be about 700, 000. Assuming the molecules to be prolate ellipsoids of revolution, the long axis was calculated to be 5, 000 A and the short axis 18 A. http://www.sciencedirect.com/science/article/B73G9-47KGRYM-75/2/160837dfea163382b08f409e36323f8d

935. Noddegard, V. E., Hansen, T., and Rasmussen, A. N. (1970). Testing of Fungicides and Insecticides in 1969. *Tidsskr.Planteavl* 74: 618-660 (DAN) (ENG ABS).
Chem Codes: EcoReference No.: 89085
Chemical of Concern: PSM,TVP,PYN,MVP,TPE,HCCH,MLN,PRN,OXD,Zineb,THM,Maneb,Folpet,FNT,DDM,DOD,DINO,DMT,DCF,DZM,MZB,DDVP,CBL,DZ,Captan,MOM,PHSL,AZ,BMY,CAP Rejection Code: NON-ENGLISH.

936. Nolan, James and Roulston, W. J (1979). Acaricide resistance as a factor in the management of acari of medical and veterinary importance. 2: 3-13.

Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1980:53355
Chemical Abstracts Number: CAN 92:53355
Section Code: 5-5
Section Title: Agrochemicals
Document Type: Conference
Coden: 42CFAP
Language: written in English.
Index Terms: Acaricides (organophosphorus, cattle tick resistance to); Boophilus microplus (resistance of, to organophosphorus acaricides)
CAS Registry Numbers: 333-41-5; 563-12-2; 732-11-6; 2921-88-2; 4824-78-6 Role: BIOL (Biological study) (cattle tick resistance to); 9000-81-1 Role: BIOL (Biological study) (in evaluation of resistance of cattle tick to organophosphorus acaricides) The biochem. and toxicol. characteristics used to differentiate the 9 strains of cattle tick, Boophilus microplus, resistant to organophosphorus compds., e.g. diazinon [333-41-5], chlorpyrifos [2921-88-2], Ethion [563-12-2], bromophos ethyl [4824-78-6], and phosmet [732-11-6], are discussed. Inhibition of acetylcholine esterase [9000-81-1] could not be used for studing the acaricide resistance in Boophilus strains. An alternative anti-resistance strategy includes the use of synergists to restore the activity of pesticides by inhibition of the enzyme responsible for their metab. [on SciFinder (R)] cattle/ tick/ resistance/ organophosphorus/ acaricide;/ Boophilus/ resistance/ phosphorus/ acaricide

937. Nonomura, Yoshiaki, Blobel, Gunter, and Sabatini, David (1971). Structure of liver ribosomes studied by negative staining. *Journal of Molecular Biology* 60: 303-308.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Unfixed ribosomal subunits obtained by puromycin treatment at high ionic strength from free polysomes of rat liver and their dimers, ribosome monomers and free polysomes, were examined electron microscopically after negative staining with uranyl acetate. Small subunits are elongated and slightly bent prolate-shaped bodies which are viewed as straight (~ 230 A x 140 A) or curved profiles (230 A x 120 A). These images show a transverse dense line or partition, which divides them into two regions of unequal size (length ratio 1:2). Small subunits dimerize in an antiparallel fashion, joining to each other through their concave sides at the smaller regions in their surface. Large subunit profiles are of three main types, (i) Rounded profiles, ~ 230 A in diameter, which correspond to views on a flattened face to which other large subunits or small subunits can bind, (ii) Asymmetric profiles which have the shape of a skiff. These are approximately triangular, with one flattened or concave side (~ 230 A long), which shows a notch (~ 40 A) towards the blunted side of the skiff, and two convex sides of unequal length, (iii) Triangular profiles more nearly equilateral than the previous ones. Of the two enantiomorphic types of large subunit profiles of type (ii), one is almost exclusively observed. Large subunit profiles types (ii) and (iii) are seen in "frontal" and "lateral" views, respectively, of the monomeric ribosome. Large subunit dimer profiles are formed by pairs of profiles (ii) or (iii). In the first case the separation between subunit profiles is oblique to the long axis of the dimer image. Two main views of the monomeric ribosome were observed. Frontal views have the small subunit visible throughout their length. The notch on the flattened side of large subunit profile type (ii) is seen as a dense spot immediately below the small subunit partition. If frontal views are oriented with the small subunit horizontally and towards the top, in most cases the small subunit partitions and the large subunit notches are to the left of the observer. In lateral views small subunits are seen as small rectangular profiles (140 A x 120 A) bound towards one end of the flattened side of large subunit profiles type (iii). If lateral views are oriented with the small subunit towards the top, most frequently the small subunit is to the right of the observer. Frontal and lateral views of the monomeric ribosome are interconvertible by tilting. A model was constructed which explains the images and the changes introduced by tilting. Within polysomes, lateral views of the monomeric ribosome were more frequent than in monomer samples. The strand joining ribosomes within a Polysome can be followed up to the dense spot under the small subunit partition or up to the junction between subunits. http://www.sciencedirect.com/science/article/B6WK7-4DPBW63-2P/2/dd9d6ce84e77e2c17e9a99e17bdf2d91

938. Nutter, W. L., Knisel, W. B Jr, Bush, P. B., and Taylor, J. W. (1993). Use of Gleams to Predict Insecticide Losses From Pine Seed Orchards. *Environ toxicol chem* 12: 441-452.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, MODELING.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Intensive pine forest management practiced in the southern United States relies heavily on seed orchards to produce genetically improved seedlings to achieve high productivity. One of the most critical problems is the control of seed and cone insects requiring heavy and frequent applications of insecticides. Hydrologic modeling of insecticide fate in surface water and ground water is a useful technique for evaluating the environmental fate of the applied insecticides. The GLEAMS (groundwater loading effects of agricultural management systems) model was used to evaluate the differences between fate of insecticides at four pine seed orchard sites in different physiographic regions of the southern United States. A 50-year simulation period was used. Insecticides selected for simulation were carbofuran, azinphosmethyl, fenvalerate, and permethrin. The simulations of insecticide losses in storm flow and percolate at each of the seed orchards demonstrated the importance of th
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: TREES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS
MESH HEADINGS: INSECTS
KEYWORDS: General Biology-Conservation
KEYWORDS: Biochemical Methods-General
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Forestry and Forest Products
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Coniferopsida
KEYWORDS: Insecta-Unspecified
LANGUAGE: eng

939. O'neill, H. J., Pollock, T. L., Brun, G. L., Doull, J. A., Leger, D. A., and Bailey, H. S. (1992). Toxic Chemical Survey of Municipal Drinking Water Sources in Atlantic Canada 1985-1988. *Water pollut res j can* 27: 715-732.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. During the period of 1985 to 1988, municipal water supply sources in Atlantic Canada were sampled and analyzed for various compounds including major ions, nutrients, heavy metals, pesticides and synthetic organic chemicals. Both surface and ground water sources were sampled. Ninety-eight percent of supply sources were within the health-related maximum acceptable concentrations of the Guidelines for Canadian

Drinking Water Quality (Health and Welfare Canada 1987), and eight-five percent within the aesthetic guidelines. A geographic information system was used to classify the municipal sources by surrounding land-use and comparisons made to nitrate-N. All samples reported as 1.0 mg.L-1 or greater were from ground water supplies in areas classed as high agricultural use. Though a direct input from agriculture was established for two wells, the source of nitrate-N at the remaining sites was attributed to soil-N and/or fertilizer-N.
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Institutions
KEYWORDS: General Biology-Conservation
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

940. Obana, Hirotaka, Akutsu, Kazuhiko, Okihashi, Masahiro, and Hori, Shinjiro (2001). Multiresidue analysis of pesticides in vegetables and fruits using two-layered column with graphitized carbon and water absorbent polymer. *Analyst (Cambridge, United Kingdom)* 126: 1529-1534.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:662672
Chemical Abstracts Number: CAN 136:52885
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; multiresidue detn. of pesticides in vegetables and fruits using two-layered column with graphitized carbon and water absorbent polymer); Gas chromatography (mass spectrometry combined with; multiresidue detn. of pesticides in vegetables and fruits using two-layered column with graphitized carbon and water absorbent polymer); Abelmoschus esculentus; Apium graveolens; Capillary gas chromatography; Chrysanthemum coronarium; Citrus sinensis; Fragaria; Fruit; HPLC; Lactuca sativa; Musa; Orange; Oroblanco; Pesticides; Pisum sativum; Plant analysis; Sample preparation; Spinacia

oleracea; Vegetable (multiresidue detn. of pesticides in vegetables and fruits using two-layered column with graphitized carbon and water absorbent polymer); Allium sativum (stalk; multiresidue detn. of pesticides in vegetables and fruits using two-layered column with graphitized carbon and water absorbent polymer)
CAS Registry Numbers: 50-29-3; 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 97-17-6 (Dichlofenthion); 99-30-9 (Dichloran); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 298-00-0 (Parathion-methyl); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 950-37-8 (Methidathion); 959-98-8; 1024-57-3 (HCE); 1085-98-9 (Dichlofluanid); 1563-66-2 (Carbofuran); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2164-08-1 (Lenacil); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2439-01-2 (Quinomethionate); 2593-15-9 (Echlomezol); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 4824-78-6 (Bromophos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 18854-01-8 (Isoxathion); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 27355-22-2 (Fthalide); 28249-77-6 (Thiobencarb); 29232-93-7 (Pyrimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9; 34643-46-4 (Prothiofos); 36335-67-8 (Butamifos); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 40487-42-1 (Pendimethalin); 43121-43-3 (Triadimefon); 50512-35-1 (Isoprothiolane); 51218-49-6 (Pretilachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55219-65-3 (Triadimenol); 55814-41-0 (Mepronil); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 66332-96-5 (Flutolanil); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68694-11-1 (Triflumizole); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 73250-68-7 (Mefenacet); 76738-62-0 (Paclobutrazol); 79538-32-2 (Tefluthrin); 82657-04-3 (Bifenthrin); 85785-20-2 (Esprocarb); 87130-20-9 (Diethofencarb); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 96489-71-3 (Pyridaben); 96491-05-3 (Thenylchlor); 111872-58-3 (Halfenprox); 119168-77-3 (Tebufenpyrad) Role: ANT (Analyte), ANST (Analytical study) (multiresidue detn. of pesticides in vegetables and fruits using two-layered column with graphitized carbon and water absorbent polymer); 7782-42-5 (Graphite); 289044-83-3 (Aquapearl A3) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (multiresidue detn. of pesticides in vegetables and fruits using two-layered column with graphitized carbon and water absorbent polymer)
Citations: 1) McMahon, B; Pesticide Analytical Manual 1994, 1
Citations: 2) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 3) Anon; Ordinance of Prime Minister's Office No 54 1993
Citations: 4) Obana, H; Analyst 1999, 124, 1159
Citations: 5) Lehotay, S; J AOAC Int 1995, 78, 821
Citations: 6) Obana, H; Jpn J Food Chem 1994, 1, 2
Citations: 7) Okihashi, M; Analyst 1998, 123, 711
Citations: 8) Anon; Solid-phase Extraction of Pesticides from Fruits and Vegetables, for Analysis by GC or HPLC 1997
Citations: 9) Obana, H; Anal Commun 1997, 34, 253 A high-throughput multiresidue anal. of pesticides in non-fatty vegetables and fruits was developed. The method consisted of a single extn. and a single clean-up procedure. Food samples were extd. with Et acetate and the mixt. of ext. and food dregs were poured directly into the clean-up column. The clean-up column consisted of two layers of water-absorbent polymer (Aquapearl A3; upper) and graphitized carbon (lower), which were packed in a reservoir (75 mL) of a cartridge column. The polymer removed water in the ext. while the carbon performed clean-up. In a recovery test, 110 pesticides were spiked and av. recoveries were more than 95% from spinach and orange. Most pesticides were

recovered in the range 70-115% with RSD usually <10% for five expts. The residue analyses were performed by the extn. of 12 pesticides from 13 samples. The two methods resulted in similar residue levels except chlorothalonil in celery, for which the result was lower with the proposed method. The results confirmed that the proposed method could be applied to monitoring of pesticide residue in foods. [on SciFinder (R)] 0003-2654 pesticide/ detn/ fruit/ vegetable/ graphite/ Aquapearl/ column

941. Obana, Hirotaka, Akutsu, Kazuhiko, Okihashi, Masahiro, Kakimoto, Sachiko, and Hori, Shinjiro (1999). Multiresidue analysis of pesticides in vegetables and fruits using a high capacity absorbent polymer for water. *Analyst (Cambridge, United Kingdom)* 124: 1159-1165.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:496135
Chemical Abstracts Number: CAN 131:256445
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Liquid chromatographic columns (graphitized carbon; multiresidue anal. of pesticides in vegetables and fruits using a high capacity absorbent polymer for water); Apple; Asparagus; Cucumber; Drying agents; Extraction; Food analysis; Food contamination; Fruit; Grapefruit; Lettuce; Liquid chromatography; Orange; Pea; Pesticides; Pineapple; Potato; Squash; Strawberry; Vegetable (multiresidue anal. of pesticides in vegetables and fruits using a high capacity absorbent polymer for water)
CAS Registry Numbers: 50-29-3 (p,p'-DDT); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-54-8 (p,p'-DDD); 72-55-9 (p,p'-DDE); 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 97-17-6 (Dichlofenthion); 99-30-9 (Dichloran); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 298-00-0 (Parathion-methyl); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6 (o,p'-DDT); 950-37-8 (Methidathion); 959-98-8 (Endosulfan-a); 1024-57-3 (HCE); 1085-98-9 (Dichlofluanid); 1563-66-2 (Carbofuran); 1897-45-6; 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2164-08-1 (Lenacil); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2439-01-2 (Quinomethionate); 2593-15-9 (Echlomezol); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 17109-49-8 (Edifenphos); 18854-01-8 (Isoxathion); 21087-64-9 (Metribuzin); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 27355-22-2 (Fthalide); 28249-77-6 (Thiobencarb); 29232-93-7 (Pyrimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan-b); 34643-46-4 (Prothiofos); 36335-67-8 (Butamifos); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 40487-42-1 (Pendimethalin); 43121-43-3 (Triadimefon); 50512-35-1 (Isoprothiolane); 51218-49-6 (Pretilachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55219-65-3 (Triadimenol); 55814-41-0 (Mepronil); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 66332-96-5 (Flutolanil); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68694-11-1 (Triflumizole); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 73250-68-7 (Mefenacet); 76738-62-0 (Paclobutrazol); 79538-32-2 (Tefluthrin); 82657-04-3 (Bifenthrin); 85785-20-2 (Esprocarb); 87130-20-9 (Diethofencarb); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 96489-71-3 (Pyridaben); 96491-05-3 (Thenylchlor); 111872-58-3 (Halfenprox); 119168-77-3 (Tebufenpyrad) Role: ANT (Analyte),

POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue anal. of pesticides in vegetables and fruits using a high capacity absorbent polymer for water); 141-78-6 (Ethyl acetate) Role: ARU (Analytical role, unclassified), PEP (Physical, engineering or chemical process), ANST (Analytical study), PROC (Process) (multiresidue anal. of pesticides in vegetables and fruits using a high capacity absorbent polymer for water)
Citations: 1) McMahon, B; Pesticide Analytical Manual 1994, 1
Citations: 2) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 3) Anon; Ordinance of Prime Minister's Office 1993, 54
Citations: 4) Lehotay, S; J Chromatogr 1997, 785, 289
Citations: 5) Richter, B; Anal Chem 1996, 68, 1033
Citations: 6) Obana, H; Analyst 1997, 122, 217
Citations: 7) Kadenczki, L; J AOAC Int 1992, 75, 53
Citations: 8) Lehotay, S; J AOAC Int 1995, 78, 821
Citations: 9) Lehotay, S; J AOAC Int 1995, 78, 831
Citations: 10) Okihashi, M; J Food Hyg Soc 1997, 38, 16
Citations: 11) Anon; Solid-Phase Extraction of Pesticides from Fruits and Vegetables 1997
Citations: 12) Akiyama, Y; J Food Hyg Soc 1998, 39, 303
Citations: 13) Nakamura, Y; J AOAC Int 1993, 76, 1348
Citations: 14) Obana, H; J Food Hyg Soc 1998, 39, 172
Citations: 15) Anon; Pesticide Analytical Manual 1991, 2
Citations: 16) Bennett, D; J AOAC Int 1997, 80, 1065
Citations: 17) Obana, H; Anal Commun 1997, 34, 253 A single extn. and a single clean-up procedure was developed for multi-residue anal. of pesticides in non-fatty vegetables and fruits. The method involves the use of a high capacity absorbent polymer for water as a drying agent in extn. from wet food samples and of a graphitized carbon column for clean-up. A homogeneously chopped food sample (20 g) and polymer (3 g) were mixed to absorb water from the sample and then 10 min later the mixt. was vigorously extd. with Et acetate (100 mL). The ext. (50 mL), sepd. by filtration, was loaded on a graphitized carbon column without concn. Addnl. Et acetate (50 mL) was also eluted and both eluates were concd. to 5 mL for anal. The procedure for sample prepn. was completed within 2 h. In a recovery test, 107 pesticides were spiked and av. recoveries were more than 80% from asparagus, orange, potato and strawberry. Most pesticides were recovered in the range 70-120%, with usually less than a 10% RSD for six expts. The results indicated that a single extn. with Et acetate in the presence of polymer can be applied to the monitoring of pesticide residues in foods. [on SciFinder (R)] 0003-2654 pesticide/ extn/ detn/ vegetable/ fruit/ chromatog;/ liq/ chromatog/ pesticide

942. Oblath, S. B. (Radionuclide Release From Low-Level Waste in Field Lysimeters. *Govt reports announcements & index (gra&i), issue 06, 1987.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: A field program has been in operation for 8 years at the Savannah River Plant (SRP) to determine the leaching/migration behavior of low-level radioactive waste using lysimeters. The lysimeters are soil-filled caissons containing well characterized wastes, with each lysimeter serving as a model of a shallow land burial trench. Sampling and analysis of percolate water and vegetation from the lysimeters provide a determination of the release rates of the radionuclides from the waste/soil system. Vegetative uptake appears to be a major pathway for migration. Fractional release rates from the waste/soil system are less than 0.01% per year. Waste-to-soil leach rates up to 10% per year have been determined by coring several of the lysimeters. The leaching of solidified wasteforms under unsaturated field conditions has agreed well with static, immersion leaching of the same type waste in the laboratory. However, releases from the waste/soil system in the lysimeter may be greater than predicted based on
KEYWORDS: round Water
KEYWORDS: Low-Level Radioactive Wastes
KEYWORDS: Soils

943. Oblath, S. B. and Hawkins, R. H. (Performance of Special Wasteform Lysimeters at a Humid Site. *Govt*

reports announcements & index (gra&i), issue 04, 1985.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: The special wasteform lysimeters at the Savannah River Laboratory are designed to measure the migration of radionuclides from commercial power reactor wasteforms under unsaturated conditions in a humid site. Operation of the lysimeters under field conditions allows prediction of the behavior of solid low-level wasteforms (concrete and polymer) in actual burial trenches. Analysis of the percolate water from the lysimeters has been performed regularly since emplacement of the waste in March 1982. Co-60 and Sr-90 have migrated through the soil to the sumps. Cs-137 has been detected only in water collected from the soil column and has not yet migrated to the sumps. The results of this unsaturated leaching can be compared to the performance of identical wasteforms in saturated leach tests. 3 references, 1 figure, 3 tables. (ERA citation 10:000321) Annual Low-Level Waste Management Program participants' information meeting, Denver, CO, USA, 11 Sep 1984.
KEYWORDS: Cesium 137
KEYWORDS: Cobalt 60
KEYWORDS: Ground Water
KEYWORDS: Measuring Instruments
KEYWORDS: Radionuclide Migration
KEYWORDS: Soils
KEYWORDS: Strontium 90
KEYWORDS: Waste Forms

944. Odanaka, Yoshitsugu, Matano, Osami, and Goto, Shinko (1991). The use of solid bonded-phase extraction as alternative to liquid-liquid partitioning for pesticide residue analysis of crops. *Fresenius' Journal of Analytical Chemistry* 339: 368-73.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1991:246024
Chemical Abstracts Number: CAN 114:246024
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (extn. and detn. of, in food crops, solid bonded-phase and gas chromatog.); Allium fistulosum; Apple; Cabbage; Cherry; Chinese cabbage; Fruit; Grape; Pea; Peach; Pear; Rice; Sorghum; Strawberry; Vegetable; Vigna angularis; Watermelon; Wheat; Yam (pesticides extn. from and detn. in, solid bonded-phase and gas chromatog.); Orange (Japanese summer, pesticides extn. from and detn. in, solid bonded-phase and gas chromatog.); Mandarin orange (Satsuma, pesticides extn. from and detn. in, solid bonded-phase and gas chromatog.); Plant (crop, pesticides extn. from and detn. in, solid bonded-phase and gas chromatog.); Pepper (green, pesticides extn. from and detn. in, solid bonded-phase and gas chromatog.); Straw (rice, pesticides extn. from and detn. in, solid bonded-phase and gas chromatog.); Rice (straw, pesticides extn. from and detn. in, solid bonded-phase and gas chromatog.); Beet (sugar, pesticides extn. from and detn. in, solid bonded-phase and gas chromatog.); Yam (D. elephantipes, pesticides extn. from and detn. in, solid bonded-phase and gas chromatog.); Persimmon (D. kaki, pesticides extn. from and detn. in, solid bonded-phase and gas chromatog.)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 114-26-1 (Propoxur); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 1085-98-9; 1129-41-5 (Metolcarb); 2104-64-5 (EPN); 2425-10-7 (Xylylcarb); 2597-03-7 (Phenthoate); 2631-40-5 (Isoprocarb); 2655-14-3 (XMC); 3766-81-2 (Fenobucarb); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 13356-08-6; 18854-01-8 (Isoxathion); 19666-30-9 (Oxadiazon); 22248-79-9

((Z)-Tetrachlorovinphos); 22350-76-1 ((E)-Tetrachlorvinphos); 26644-46-2; 26644-46-2D; 35367-38-5 (Diflubenzuron); 36734-19-7 (Iprodione); 40487-42-1 (Pendimethalin); 51218-45-2 (Metolachlor); 51630-58-1 (Fenvalerate); 55285-14-8 (Carbosulfan); 57018-04-9; 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 67628-93-7 ((Z)-Dimethylvinphos); 67747-09-5 (Prochloraz); 71363-52-5 ((E)-Dimethylvinphos); 74115-24-5 (Clofentezine); 82560-54-1 (Benfuracarb); 83657-22-1 (Uniconazole); 83657-24-3 (Diniconazole); 88678-67-5 Role: BIOL (Biological study) (extn. and detn. of, in food crops, solid bonded-phase and gas chromatog.) The application of solid bonded-phase extn. to the cleanup of sample exts. in pesticide residue gas chromatog. anal. has been examd. In comparison with liq.-liq. partition, the following advantages are offered: the consumption of solvent is considerably reduced, there are less interferences, and accuracy and precision are improved. [on SciFinder (R)] 0937-0633 pesticide/ extn/ detn/ food/ crop;/ gas/ chromatog/ pesticide/ extn

945. Odor, Zoltan (19870129). Reaction products of pesticides with acrylic polymer as plant-protecting compositions. 31 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1987:209489
Chemical Abstracts Number: CAN 106:209489
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Pesticides; Repellents (compds. with acrylic resins, for plant treatments); Plant hormones and regulators; Pyrethrins and Pyrethroids Role: BIOL (Biological study) (compds. with acrylic resins, for plant treatments); Acrylic polymers Role: BIOL (Biological study) (reaction products, with pesticides, for plant treatment)
CAS Registry Numbers: 52-68-6D; 55-38-9D; 58-89-9D; 60-51-5D; 62-73-7D; 63-25-2D (Carbaryl); 74-82-8D (Methane); 76-87-9D; 77-06-5D; 86-87-3D; 114-26-1D; 115-29-7D; 116-06-3D; 121-75-5D; 122-14-5D; 122-79-2D (Phenylacetate); 126-22-7D (Butonate); 133-06-2D; 133-07-3D; 133-32-4D (b-Indolylbutyric acid); 134-31-6D; 137-26-8D (TMTD); 298-02-2D; 333-41-5D; 470-90-6D; 495-48-7D; 533-74-4D; 534-52-1D; 640-15-3D; 645-78-3D; 732-11-6D; 944-22-9D; 950-37-8D; 973-21-7D; 1085-98-9D; 1563-66-2D; 1593-77-7D (Dodemorph); 1897-45-6D; 2032-65-7D; 2104-96-3D (Bromophos); 2143-58-0D (Methylperoxyl); 2227-13-6D; 2227-17-0D; 2275-18-5D; 2310-17-0D (Phosalone); 2425-06-1D; 2439-01-2D; 2439-10-3D; 2540-82-1D; 2597-03-7D; 2921-88-2D; 3347-22-6D; 3689-24-5D; 3878-19-1D; 4234-79-1D; 4727-29-1D; 5131-24-8D; 5234-68-4D; 5836-10-2D; 6067-68-1D (Propenyl); 6923-22-4D; 6988-21-2D; 7696-12-0D; 7786-34-7D; 8001-35-2D; 8018-01-7D; 9006-42-2D; 10004-44-1D (Hymexazole); 10265-92-6D; 10380-28-6D; 10552-74-6D; 10605-21-7D; 12122-67-7D; 12427-38-2D; 13071-79-9D; 13356-08-6D; 13593-03-8D; 15263-53-3D; 15845-66-6D; 16227-10-4D; 16672-87-0D; 16752-77-5D; 17804-35-2D (Benomyl); 19396-06-6D; 22248-79-9D; 23103-98-2D; 23135-22-0D (Oxamyl); 23560-59-0D; 23564-05-8D; 24017-47-8D (Triazophos); 26644-46-2D; 28434-01-7D; 29232-93-7D; 31895-21-3D; 32809-16-8D; 33089-61-1D; 35367-38-5D; 36734-19-7D; 39148-24-8D; 39300-45-3D; 41483-43-6D; 43121-43-3D; 50471-44-8D; 51630-58-1D; 52315-07-8D; 52645-53-1D; 52918-63-5D; 55179-31-2D; 55219-65-3D; 57837-19-1D; 57966-95-7D; 60168-88-9D; 63284-71-9D; 75736-33-3D; 81412-43-3D (Tridemorph) Role: AGR (Agricultural use), BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pesticide, for plants)
PCT Designated States: Designated States W: BG, BR, DK, FI, JP, KR, NO, RO, SU, US.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE.
Patent Application Country: Application: WO
Priority Application Country: HU
Priority Application Number: 85-2718
Priority Application Date: 19850716 A mixt. of pesticide(s) or plant growth regulator, alkyl methacrylate and cross-linking inhibitor is heated or irradiated to give a product usable on plants.

A mixt. of quinolphos 1, deltamethrin 1, Me methacrylate 1, hydroquinone 3, and benomyl 3 parts by wt. was heated to 110 Deg, followed by formulation with Lutazol AT25 and Likovet to give 3 kg emulsion conc. The conc., at 0.5-1% aq. diln., controlled fungal diseases and insects on fruit trees. [on SciFinder (R)] A01N025-22. pesticide/ polyacrylate/ plant;/ phytohormone/ polyacrylate/ plant

946. Ogden, R. J., Smith, C. N., Parrish, R. S., Bush, P. B., Mills, H. A., and Daniell, J. W. (1985). Initial Distribution Persistence and Disappearance by Washoff of Foliar-Applied Captan and Phosmet in a Mature Peach Orchard Preliminary Data-Base for Model Testing. *45th annual meeting of the american society for horticultural science (southern region), biloxi, miss., Usa, feb. 3-5, 1985. Hortscience* 20: 652.
Chem Codes: Chemical of Concern: PSM Rejection Code: ABSTRACT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT SOIL NITROGEN
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS, MEDICINAL
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Studies-General
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Pest Control
KEYWORDS: Rosaceae
LANGUAGE: eng

947. Oh, J. I. and Kaplan, S. (Redox Signaling: Globalization of Gene Expression. *Embo j. 2000, aug 15; 19(16):4237-47. [The embo journal]: EMBO J.*
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: Here we show that the extent of electron flow through the cbb(3) oxidase of Rhodobacter sphaeroides is inversely related to the expression levels of those photosynthesis genes that are under control of the PrrBA two-component activation system: the greater the electron flow, the stronger the inhibitory signal generated by the cbb(3) oxidase to repress photosynthesis gene expression. Using site-directed mutagenesis, we show that intramolecular electron transfer within the cbb(3) oxidase is involved in signal generation and transduction and this signal does not directly involve the intervention of molecular oxygen. In addition to the cbb(3) oxidase, the redox state of the quinone pool controls the transcription rate of the puc operon via the AppA-PpsR antirepressor-repressor system. Together, these interacting regulatory circuits are depicted in a model that permits us to understand the regulation by oxygen and light of photosynthesis gene expression in R.SPHAEROIDES:
MESH HEADINGS: Antibiotics, Antifungal/pharmacology
MESH HEADINGS: *Bacterial Proteins
MESH HEADINGS: Blotting, Western
MESH HEADINGS: Carbonyl Cyanide m-Chlorophenyl Hydrazone/pharmacology
MESH HEADINGS: DNA-Binding Proteins/chemistry

MESH HEADINGS: Dose-Response Relationship, Drug
MESH HEADINGS: Electron Transport Complex IV/*chemistry
MESH HEADINGS: *Electrons
MESH HEADINGS: Electrophoresis, Polyacrylamide Gel
MESH HEADINGS: *Gene Expression Regulation, Enzymologic
MESH HEADINGS: Ionophores/pharmacology
MESH HEADINGS: Light
MESH HEADINGS: Methacrylates
MESH HEADINGS: Models, Biological
MESH HEADINGS: Mutagenesis, Site-Directed
MESH HEADINGS: Operon
MESH HEADINGS: *Oxidation-Reduction
MESH HEADINGS: Oxygen/metabolism
MESH HEADINGS: Photosynthesis/genetics
MESH HEADINGS: Repressor Proteins/chemistry
MESH HEADINGS: Rhodobacter sphaeroides/*chemistry
MESH HEADINGS: Signal Transduction
MESH HEADINGS: Spectrophotometry
MESH HEADINGS: Thiazoles/pharmacology
MESH HEADINGS: Time Factors
MESH HEADINGS: Transcription, Genetic
MESH HEADINGS: Ultraviolet Rays
MESH HEADINGS: Uncoupling Agents/pharmacology
LANGUAGE: eng

948. Ohashi, Norio, Tsuchiya, Yoshiteru, Sasano, Hideo, and Hamada, Akira (1994). Ozonization products of organophosphorous pesticides in water. *Japanese Journal of Toxicology and Environmental Health* 40: 185-92.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:586427
Chemical Abstracts Number: CAN 121:186427
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus, degrdn. behavior of, by ozonization, in water, as pollutants, oxons from); Water pollution (ozone degrdn. of organophosphorous pesticides in relation to); Water purification (ozonization, of water-contg. pesticides)
CAS Registry Numbers: 55-38-9 (Fenthion); 122-14-5 (Fenitrothion); 333-41-5; 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2104-64-5 (EPN); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 3811-49-2 (Salithion); 5598-13-0 (Methyl chlorpyrifos); 13067-93-1 (Cyanofenphos); 18854-01-8 (Isoxathion); 25311-71-1 (Isofenphos); 36335-67-8 (Butamifos); 57018-04-9 Role: OCCU (Occurrence) (degrdn. behavior of, by ozone, in water, as pollutant, oxons from); 17109-49-8 (EDDP) Role: OCCU (Occurrence) (degrdn. behavior of, by ozonization, in water, as pollutants, oxons from); 64-18-6 (Formic acid); 64-19-7 (Acetic acid); 78-40-0 (Triethyl phosphate); 108-98-5 (Thiophenol); 598-02-7 (Diethyl phosphate); 882-33-7 (Diphenyl disulfide); 962-58-3 (Diazinon oxon); 2012-00-2 (EPN oxon); 2255-17-6 (Fenitrothion oxon); 3690-28-6 (Phenthoate oxon); 3735-33-9 (Phosmet oxon); 3735-80-6; 3761-41-9 (Fenthion sulfoxide); 3761-42-0 (Fenthion sulfone); 5598-15-2 (Chlorpyrifos oxon); 5598-52-7; 6552-12-1 (Fenthion oxon); 6552-13-2; 14086-35-2; 22756-17-8; 31120-85-1 (Isofenphos oxon); 39856-16-1 (Methidathion oxon); 56362-05-1; 61090-94-6 (Cyanophos oxon); 62266-03-9 (Cyanofenphos oxon); 97483-08-4; 157799-70-7 Role: ANT

(Analyte), ANST (Analytical study) (detn. of, as ozonization products of organophosphorous pesticides, in water); 10028-15-6 (Ozone) Role: MSC (Miscellaneous) (organophosphorous pesticide degrdn. by, in water, as pollutants, oxons from); 7732-18-5 (Water) Role: MSC (Miscellaneous) (ozonization in, of organophosphorous pesticides, as pollutants, oxons from) Primary ozonization degrdn. products of organophosphorous pesticides in water were studied by gas chromatog.-mass spectrometry. and the oxidn. pathways of diazinon, fenthion (MPP), and edifenphos (EDDP) were proposed. Mass-spectra of ozonization products of the evaluated 17 organophosphorous pesticides suggested that they were oxons. Organophosphorous pesticides were converted to oxons in accordance with prodn. of SO42- as their thiophosphorile bonds were oxidized by O3 into phosphorile bonds. Although oxons were stable against ozonization, they were further hydrolyzed into trialkyl phosphate and other hydrolysis products. However, in MPP, thiomethyl radicals were oxidized prior to thiophosphorile bonds and MPP-sulfoxide was produced. MPP-sulfone, MPP-sulfoxide-oxon and MPP-sulfone-oxon were also generated from MPP. Two major oxidn. products were obtained from bis-dithio type ethion. EDDP of the phosphate type was resistant to ozonization, but its oxidn. products were detected after hydrolysis. [on SciFinder (R)] 0013-273X organophosphorous/ pesticide/ ozonization/ degrdn;/ water/ pollution/ organophosphorous/ pesticide/ ozonization

949. Ohta, Toshihiro, Watanabe-Akanuma, Mie, and Yamagata, Hideo (2000). A comparison of mutation spectra detected by the Escherichia coli Lac+ reversion assay and the Salmonella typhimurium His+ reversion assay. *Mutagenesis* 15: 317-323.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:578154
Chemical Abstracts Number: CAN 133:292154
Section Code: 4-6
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Escherichia coli; Mutagens; Salmonella typhimurium (comparison of mutation spectra detected by the Escherichia coli Lac+ reversion assay and the Salmonella typhimurium His+ reversion assay); Gene Role: ARU (Analytical role, unclassified), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (hisC; comparison of mutation spectra detected by the Escherichia coli Lac+ reversion assay and the Salmonella typhimurium His+ reversion assay); Gene Role: ARU (Analytical role, unclassified), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (hisG; comparison of mutation spectra detected by the Escherichia coli Lac+ reversion assay and the Salmonella typhimurium His+ reversion assay); Gene Role: ARU (Analytical role, unclassified), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (lacZ; comparison of mutation spectra detected by the Escherichia coli Lac+ reversion assay and the Salmonella typhimurium His+ reversion assay); Mutation (reversion; comparison of mutation spectra detected by the Escherichia coli Lac+ reversion assay and the Salmonella typhimurium His+ reversion assay)
CAS Registry Numbers: 50-00-0 (Formaldehyde); 50-44-2 (6-Mercaptopurine); 56-57-5 (4-Nitroquinoline 1-oxide); 62-50-0 (EMS); 66-27-3 (MMS); 70-25-7 (MNNG); 75-91-2 (tert-Butyl hydroperoxide); 80-15-9 (Cumene hydroperoxide); 107-22-2 (Glyoxal); 133-06-2 (Captan); 320-67-2 (5-Azacytidine); 452-06-2 (2-Aminopurine); 684-93-5 (MNU); 732-11-6 (Phosmet); 759-73-9 (ENU); 2435-76-9 (5-Diazouracil); 3688-53-7 (AF-2); 4245-77-6 (ENNG); 26628-22-8 (Sodium azide); 57294-74-3 (N4-Aminocytidine); 77439-76-0 (MX) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (comparison of mutation spectra detected by the Escherichia coli Lac+ reversion assay and the Salmonella typhimurium His+ reversion assay)
Citations: Benedict, W; Cancer Res 1977, 37, 2209
Citations: Cupples, C; Genetics 1988, 120, 637
Citations: Cupples, C; Proc Natl Acad Sci USA 1989, 86, 5345
Citations: Garganta, F; Environ Mol Mutagen 1999, 33, 75

Citations: Gatehouse, D; Mutat Res 1994, 312, 217
Citations: Gee, P; Proc Natl Acad Sci USA 1994, 91, 11606
Citations: Gee, P; Mutat Res 1998, 412, 115
Citations: Hakura, A; J Bacteriol 1991, 173, 3663
Citations: Koch, W; Carcinogenesis 1994, 15, 79
Citations: Koch, W; Mutagenesis 1996, 11, 341
Citations: Levin, D; Environ Mutagen 1986, 8, 9
Citations: Lindahl, T; Annu Rev Biochem 1988, 57, 133
Citations: Lu, C; Mutat Res 1995, 343, 219
Citations: Maron, D; Mutat Res 1983, 113, 173
Citations: Marwood, T; Carcinogenesis 1995, 16, 2037
Citations: Miller, J; Proc Natl Acad Sci USA 1986, 83, 1026
Citations: Nepomnaschy, I; Experientia 1984, 40, 370
Citations: Ohta, T; Mutat Res 1998, 413, 219
Citations: Ohta, T; Mutat Res 1999, 440, 59
Citations: Potter, P; Nucleic Acids Res 1987, 15, 9177
Citations: Prival, M; Genetics 1992, 132, 303
Citations: Seino, Y; Cancer Res 1978, 38, 2148
Citations: Shinoura, Y; Mutat Res 1983, 111, 43
Citations: Watanabe, M; Carcinogenesis 1993, 14, 1149
Citations: Watanabe, M; Mutat Res 1994, 314, 27
Citations: Watanabe, M; Mutat Res 1994, 314, 39
Citations: Watanabe-Akanuma, M; Mutat Res 1994, 311, 295
Citations: Watanabe-Akanuma, M; Mutat Res 1997, 373, 61
Citations: Wilkinson, M; Nucleic Acids Res 1989, 17, 8475
Citations: Yamada, M; J Bacteriol 1993, 175, 5539
Citations: Yamada, M; J Bacteriol 1995, 177, 1511 Each of the Escherichia coli tester strains in the WP3101P-WP3106P series contains an F' plasmid with a different base substitution mutation within the lacZ gene. Each of the six possible base substitution mutations, therefore, can be assayed with these strains by Lac+ reversion. The authors used the strains to characterize the mutational profiles of 21 chem. mutagens, including alkylating agents, base analogs and oxidative compds. The authors also assayed the mutagens with Salmonella typhimurium tester strains TA7002, TA7004 and TA7005, which detect A.T->T.A, G.C->A.T and G.C->T.A mutations, resp., and the authors compared the sensitivity and specificity of the two systems. Escherichia coli strain WP3102P was more sensitive than the S.typhimurium strains to G.C->A.T transitions induced by N4-aminocytidine, 5-azacytidine, cumene hydroperoxide (CHP), t-Bu hydroperoxide (BHP), N-ethyl-N'-nitro-N-nitrosoguanidine (ENNG), Me methane sulfonate and N-ethyl-N-nitrosourea (ENU), while the reverse was true for G.C->A.T transitions induced by 2-aminopurine and phosmet. Escherichia coli strain WP3104P, which detects G.C->T.A transversions, was superior to the S.typhimurium strains in detecting transversions induced by N4-aminocytidine, 5-azacytidine, 5-diazouracil, CHP, BHP, ENNG, ENU, 4-nitroquinoline 1-oxide (4-NQO) and 3-chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone (MX). Escherichia coli WP3105P was also more sensitive than S.typhimurium to A.T->T.A transversions induced by N-methyl-N-nitrosourea (MNU), CHP and 4-NQO, but it was less sensitive to those induced by ENNG, ENU and 2-aminopurine. The present results indicate that the E.coli Lac+ reversion system with tester strains WP3101P-WP3106P is as sensitive as the S.typhimurium His+ reversion system for the detection of specific mutations induced by a variety of direct mutagens. [on SciFinder (R)] 0267-8357
Escherichia/ Salmonella/ reversion/ assay

950. Oja, T., Yin Xiwei, and Arp, P. A. *. (1995). The Forest Modelling Series Form-S: Applications to the Solling Spruce Site. *Ecological Modelling [ECOL. MODEL.]. Vol. 83, no. 1-2, pp. 207-217. 1995*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: MODELING.

ISSN: 0304-3800
Descriptors: Article Subject Terms: models

Descriptors: forests
Descriptors: hydrology
Descriptors: nutrient loss
Descriptors: Article Taxonomic Terms: Picea abies
Descriptors: Article Geographic Terms: Germany
Abstract: The forest model series ForM-S currently includes four modules addressing (1) water fluxes (ForHyM), (2) soil temperature (ForSTeM), (3) ion fluxes (ForIoM), and (4) primary production and nutrient cycling in upland forest stands (ForSVA). The modules require climate records (air temperature, precipitation volume), total atmospheric ion deposition and descriptive site information as input. The models are designed to capture the dynamics of the simulated processes at monthly (ForHyM, ForSTeM, ForIoM) and annual scales (ForSVA). ForHyM and ForSTeM have been verified across diverse sites in North America. For the Solling dataset, ForHyM closely reproduced hydrologic data (monthly throughfall, forest-floor percolate, soil percolate) without further calibration. With ForSTeM and ForHyM, snowpack water, soil temperatures, and frost penetration were simulated. ForIoM simulations compared favourably with the concentration and flux data for individual ion species (H super(+), K super(+), Na super(+), NH super(+) sub(4), Cl super(-), NO super(-) sub(3), Ca super(2+), Mg super(2+), SO sub(4) super(2-), Al super(x+)) in throughfall, forest-floor percolate and soil percolate after calibrating one or two parameters for the forest canopy, the forest floor, the mineral soil. Nutrient losses, nutrient uptake rates, base cation replenishment rates within the soil, and biomass production and accumulation for the main stand compartments (foliage, wood, fine roots, forest floor) were simulated with ForSVA. The resulting calculations about cumulative soil leaching losses for Ca, Mg, K, NH sub(4)-N, NO sub(3)-N, and SO sub(4)-S were in good agreement with observations.
Conference: Workshop on Modelling Water, Carbon and Nutrient Cycles in Forests, Leusden (The Netherlands), 10-14 May 1993
Language: English
English
Publication Type: Journal Article
Publication Type: Conference
Classification: D 04003 Modeling, mathematics, computer applications
Classification: D 04700 Management
Subfile: Ecology Abstracts

951. Oja, Tonu, Yin, Xiwei, and Arp, Paul A. (1995). The forest modelling series ForM-S: applications to the Solling spruce site: Modelling Water, Carbon and Nutrient Cycles in Forests. *Ecological Modelling* 83: 207-217.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

The forest model series ForM-S currently includes four modules addressing (1) water fluxes (ForHyM), (2) soil temperature (ForSTeM), (3) ion fluxes (ForIoM), and (4) primary production and nutrient cycling in upland forest stands (ForSVA). The modules require climate records (air temperature, precipitation volume), total atmospheric ion deposition and descriptive site information as input. The models are designed to capture the dynamics of the simulated processes at monthly (ForHyM, ForSTeM, ForIoM) and annual scales (ForSVA). ForHyM and ForSTeM have been verified across diverse sites in North America. For the Solling dataset, ForHyM closely reproduced hydrologic data (monthly throughfall, forest-floor percolate, soil percolate) without further calibration. With ForSTeM and ForHyM, snowpack water, soil temperatures, and frost penetration were simulated. ForIoM simulations compared favourably with the concentration and flux data for individual ion species (H+, K+, Na+, NH+4, Cl-, NO-3, Ca2+, Mg2+, SO2-4, Alx+) in throughfall, forest-floor percolate and soil percolate after calibrating one or two parameters for the forest canopy, the forest floor, the mineral soil. Nutrient losses, nutrient uptake rates, base cation replenishment rates within the soil, and biomass production and accumulation for the main stand compartments (foliage, wood, fine roots, forest floor) were simulated with ForSVA. The resulting calculations about cumulative soil leaching losses for Ca, Mg, K, NH4-N, NO3-N, and SO4-S were in good agreement with observations Forest ecosystems/ ForM-S/ Geochemistry/ Hydrology/ Nutrient/ Scenario analysis/ Spruce http://www.sciencedirect.com/science/article/B6VBS-4031PNB-X/2/8e063e3904e1a4cffc30e6d1277ee50b

952. Okahata, Yoshio, Yomemori, Kazuyuki, and Fujita, Shinsuke (19910403). Method of evaluating the physiological activities and structural characteristics of medicinal substances using lipid films on crystal oscillators. 19 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:623438
Chemical Abstracts Number: CAN 115:223438
Section Code: 1-3
Section Title: Pharmacology
CA Section Cross-References: 4
Coden: EPXXDW
Index Terms: Antibiotics (against Gram-pos. bacteria, correlation of long-chain fatty acid structure with, crystal oscillator with lipid film in anal. of); Biosensors (crystal oscillators with lipid films as, for pharmaceutical anal.); Phospholipids Role: USES (Uses) (film of, on crystal oscillator, medicinal substances interaction with, in pharmaceutical anal.); Lipids Role: USES (Uses) (films, on crystal oscillator, medicinal substances interaction with, in pharmaceutical anal.); Phosphate group (lipid film contg., duramycin interaction with, on crystal oscillator); Pharmaceutical analysis (lipid film on crystal oscillator in); Oscillators and Resonators (lipid films on, medicinal substances interaction with, in pharmaceutical anal.); Adsorption (of cyclic peptide antibiotics onto phospholipid film on crystal oscillator, activity-structure correlation in relation to); Films (of lipids, on crystal oscillator, medicinal substances interaction with, in pharmaceutical anal.); Molecular structure-biological activity relationship (of medicinals, crystal oscillator with lipid films in anal. of); Toxicity (partition coeff. of, in polyion complex lipid film on crystal oscillator, activity correlation in relation to); Films (Langmuir-Blodgett, lipids, on crystal oscillator, duramycin interaction with); Glycerides Role: BIOL (Biological study) (di-, galactosyl, lipid film contg., duramycin interaction with, on crystal oscillator); Bacteria (gram-pos., activity against, correlation of long-chain fatty acid structure with, crystal oscillator with lipid film in anal. of); Anesthetics (local, partition coeff. of, in polyion complex lipid film on crystal oscillator, activity correlation in relation to); Fatty acids Role: PRP (Properties) (long-chain, interaction of, with polyion complex lipid film on crystal oscillator, anti-Gram-pos. bacteria activity correlation with); Antibiotics (peptide, cyclic, interaction of, with phosphoethanolamine-based lipid film on crystal oscillator, activity-structure correlation in relation to); Amines Role: BIOL (Biological study) (secondary, salts, with polystyrene sulfonic acid, as lipid film on crystal oscillator, long-chain fatty acids an other chems. interaction with)
CAS Registry Numbers: 50851-57-5D (Polystyrene sulfonic acid) Role: BIOL (Biological study) (as lipid film on crystal oscillator, long-chain fatty acids and other chems. interaction with); 116890-15-4 Role: BIOL (Biological study) (as lipid film on crystal oscillator, pharmaceutical activity/structure evaluation with); 1391-36-2 (Duramycin) Role: PRP (Properties) (interaction of, with Langmuir-Blodgett multibilayer films on crystal oscillator); 57-10-3 (Hexadecanoic acid); 57-11-4 (Octadecanoic acid); 142-62-1 (Caproic acid); 143-07-7 (Dodecanoic acid); 334-48-5 (Decanoic acid); 544-63-8 (Tetradecanoic acid) Role: PRP (Properties) (interaction of, with polyion complex lipid film on crystal oscillator, anti-Gram-pos. bacteria activity correlation with); 59-46-1 (Procaine); 85-79-0 (Dibucaine); 94-24-6 (Tetracaine); 96-88-8 (Mepivacaine); 137-58-6 (Lidocaine); 721-50-6 (Prilocaine); 38396-39-3 (Bupivacaine) Role: PRP (Properties) (interaction of, with polyion complex lipid film on crystal oscillator, local anesthetic activity correlation with); 136-47-0 (Tetracaine hydrochloride) Role: PRP (Properties) (interaction of, with polyion complex lipid film on crystal oscillator, pH effect on); 50-06-6 (Phenobarbital); 50-78-2 (Acetylsalicylic acid); 50-85-1 (4-Methylsalicylic acid); 52-90-4 (Cysteine); 53-86-1; 56-40-6 (Glycine); 58-08-2; 58-15-1 (Dimethylaminoantipyrine); 58-61-7 (Adenosine); 59-66-5 (Acetazolamide); 60-24-2 (Mercaptoethanol); 60-29-7 (Diethylether); 62-53-3 (Aniline); 62-55-5 (Ethanethioamide); 63-74-1; 64-17-5 (Ethyl alcohol); 65-49-6 (4-Aminosalicylic acid); 65-85-0

(Benzoic acid); 67-56-1 (Methyl alcohol); 67-68-5 (Dimethylsulfoxide); 67-71-0 (Dimethylsulfone); 68-12-2; 68-94-0; 69-72-7 (Salicylic acid); 71-00-1 (L-Histidine); 71-36-3 (Butyl alcohol); 71-43-2 (Benzene); 73-22-3 (L-Tryptophane); 73-24-5 (1H-Purin-6-amine); 74-59-9; 75-75-2 (Methanesulfonic acid); 81-54-9 (Purpurine); 89-56-5 (5-Methylsalicylic acid); 89-57-6 (5-Aminosalicylic acid); 91-20-3 (Naphthalene); 96-09-3 (1,2-Epoxyethylbenzene); 96-97-9 (5-Nitrosalicylic acid); 97-00-7 (2,4-Dinitrochlorobenzene); 97-05-2 (5-Sulfosalicylic acid); 98-92-0 (3-Pyridinecarboxamide); 100-01-6 (P-Nitroaniline); 100-51-6 (Benzyl alcohol); 108-88-3 (Toluene); 109-05-7 (2-Pipecoline); 110-86-1 (Pyridine); 110-89-4 (Piperidine); 111-87-5 (Octyl alcohol); 118-00-3 (Guanosine); 121-75-5; 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 123-54-6 (Acetylacetone); 130-95-0 (Quinine); 131-99-7 (5'-Inosinic acid); 151-21-3 (Sodium dodecylsulfate); 288-32-4 (Imidazole); 490-79-9 (5-Hydroxysalicylic acid); 583-39-1 (2-Benzimidazolethiol); 594-45-6 (Ethanesulfonic acid); 609-99-4; 732-11-6 (Phosmet); 831-54-9 (5-Sulfosalicylic acid sodium salt); 872-50-4 (N-Methyl-2-pyrrolidone); 3518-65-8 (Chloromethylsulfonyl chloride); 13073-35-3 (Ethionine); 24684-03-5 (2-Imidazolethione); 26087-47-8 (Kitazin-P); 28249-77-6 (Benthiocarb); 30086-64-7 (Octahydro-2H-benzimidazole-2-thione); 62850-32-2 (Fenothiocarb) Role: PRP (Properties) (interaction of, with polyion complex lipid film on crystal oscillator, toxicity correlation with); 107-73-3 (Phosphocholine) Role: BIOL (Biological study) (lipid film contg., duramycin interaction with, on crystal oscillator)
Reg.Pat.Tr.Des.States: Designated States R: CH, DE, FR, GB, IT, LI, NL, SE.
Patent Application Country: Application: EP
Priority Application Country: JP
Priority Application Number: 89-251858
Priority Application Date: 19890929 A method of evaluating the physiol. and structural characteristics of medicinal substances uses crystal oscillators having lipid films to det. correlations of (A) physiol. activity factors and/or structural characteristics of the medicinals with (B) change in frequency, adsorption amts., lipid film-water partition coeffs., or other lipid film interaction characteristic. The antimicrobial activity of long-chain fatty acids against Gram-pos. bacteria showed good correlation with the partition coeff. using a lipid film of polystyrene sulfonic acid dialkylammonium salt. The partition coeff. of 70 substances in this film correlated well with Draize scores as an indication of toxicity. [on SciFinder (R)] G01N029-00. G01N033-15. crystal/ oscillator/ lipid/ film/ pharmaceutical/ analysis;/ mol/ structure/ biol/ activity/ biosensor;/ fatty/ acid/ antimicrobial/ activity/ correlation;/ toxicity/ lipid/ film/ oscillator/ correlation

953. Okumura, D. , Melnicoe, R., Jackson, T., Drefs, C., Maddy, K., and Wells, J. (1991). Pesticide Residues in Food Crops Analyzed by the California Usa Department of Food and Agriculture in 1989. *Ware, g. W. (Ed.). Reviews of environmental contamination and toxicology, vol. 118. Ix+158p. Springer-verlag new york inc.: New york, new york, usa* Berlin, germany. Illus. Isbn 0-387-97447-4; isbn 3-540-97447-4.; 0: 87-152.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW ENVIRONMENTAL CONTAMINATION TOXICOLOGY
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION

MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS
KEYWORDS: General Biology-Institutions
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Foods
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Agronomy-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Angiospermae
LANGUAGE: eng

954. Okumura, T. and Nishikawa, Y. (1995). Determination of Organophosphorus Pesticides in Environmental Samples by Capillary Gas Chromatography-Mass Spectrometry. *J.Chromatogr.A* 709: 319-331.
Chem Codes: Chemical of Concern: DZ,MLN,MDT,PSM,PHSL Rejection Code: SURVEY.

955. Okumura, Tameo and Nishikawa, Yoshinori (1995). Determination of organophosphorus pesticides in environmental samples by capillary gas chromatography-mass spectrometry. *Journal of Chromatography, A* 709: 319-31.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:791336
Chemical Abstracts Number: CAN 123:191060
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Environmental analysis; Fish; Geological sediments (detn. of organophosphorus pesticides in environmental samples by capillary gas chromatog.-mass spectrometry); Pesticides (organophosphorus; detn. of organophosphorus pesticides in environmental samples by capillary gas chromatog.-mass spectrometry)
CAS Registry Numbers: 7732-18-5 (Water) Role: ANT (Analyte), ANST (Analytical study) (detn. of organophosphorus pesticides in environmental samples by capillary gas chromatog.-mass spectrometry); 55-38-9 (MPP); 121-75-5 (Malathion); 122-14-5 (MEP); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 3811-49-2 (Salithion); 17109-49-8 (EDDP); 18708-86-6 (a-CVP); 18708-87-7 (b-CVP); 18854-01-8 (Isoxathion); 26087-47-8 (IBP) Role: ANT (Analyte), BOC (Biological occurrence), BSU (Biological study, unclassified), PRP (Properties), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence) (detn. of organophosphorus pesticides in environmental samples by capillary gas chromatog.-mass spectrometry) Traces of 14 organophosphorus pesticides in environmental samples such as river water, sediment and fish were detd. by capillary GC-MS with selected-ion monitoring. The pesticides could be detd. within the range 0.02-0.75 ng/mL in water with relative std. deviations (R.S.D.s) of 1.0-31.4% (except for MPP, 1.0-10.9%). The detection limits of the pesticides were 0.013-0.120 ng/mL in water. Their recoveries from river water, sea water, sediment and fish samples were 101-132%, 103-145%, 93-166% (except for isoxathion)

and 67-101% (except for isoxathion and phosmet), with R.S.D.s of 1.1-8.0%, 0.9-8.2%, 6.2-28.5% and 4.2-10.8%, resp. [on SciFinder (R)] 0021-9673 organophosphorus/ pesticide/ detn/ environment/ sample

956. Olson, John M., Koenig, Donald F., and Ledbetter, Myron C. (1969). A model of the bacteriochlorophyll-protein from green photosynthetic bacteria. *Archives of Biochemistry and Biophysics* 129: 42-48.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Crystals of a chlorophyll-protein from Chloropseudomonas ethylicum were studied by X-ray diffraction and electron microscopy. Dimensions of the unit cell (hexagonal space group P63) are a = B = 195 +/- 1 A and c = 98.4 +/- 0.5 A. The unit cell contains six macromolecules (120 chlorophylls). Crystals fixed with glutaraldehyde were sectioned either perpendicular or parallel to the crystal (c) axis and examined in an electron microscope. Sections cut parallel to the crystal axis showed alternate lightdark striations parallel to the axis with a repeat distance of 106 +/- 16 A. Some sections cut perpendicular to the axis showed an hexagonal array of electron-transparent "holes" 120 +/- 20 A apart. The holes and light striations are thought to indicate channels parallel to the c axis at each corner and through the center of each hexagonal unit cell A macromolecular shape approximating a prolate ellipsoid, 88 A long and 65 A in diameter, is consistent with the volume of the macromolecule and crystalline packing considerations. Electron micrographs of negatively stained individual macromolecules indicate an average diameter of 67 +/- 13 A.
http://www.sciencedirect.com/science/article/B6WB5-4DXBFDH-42/2/006a563e0f6a7e9ae41d1c3788c50571

957. Olson, Norman L., Carrell, Robert, Cummings, Randy K., and Rieck, Robert (1994). Gas chromatography with atomic emission detection for pesticide screening and confirmation. *LC-GC* 12: 142, 144, 146, 148, 150, 152, 154.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:238104
Chemical Abstracts Number: CAN 120:238104
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 19, 61
Document Type: Journal
Language: written in English.
Index Terms: Chromatography (at. emission combined with, of pesticides); Pesticides (gas chromatog. with at. emission detection of); Environmental analysis; Soil analysis (pesticides detn. in, by gas chromatog. with at. emission detection); Spectrochemical analysis (at. emission, gas chromatog. combined with, of pesticides)
CAS Registry Numbers: 50-29-3 (p,p'-DDT); 51-36-5 (3,5-Dichlorobenzoic acid); 53-19-0 (o,p'-DDD); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 58-90-2 (2,3,4,6-Tetrachlorophenol); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-43-5 (Methoxychlor); 72-54-8 (p,p'-DDD); 72-55-9 (p,p'-DDE); 76-44-8 (Heptachlor); 78-48-8 (Tribufos); 82-68-8 (Pentachloronitrobenzene); 86-50-0 (Methyl azinphos); 87-61-6 (1,2,3-Trichlorobenzene); 87-86-5 (Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 88-85-7 (Dinoseb); 93-65-2 (MCPP); 93-72-1 (Silvex); 93-76-5 (2,4,5-T); 93-80-1 (2,4,5-TB); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-82-6 (2,4-DB); 95-95-4 (2,4,5-Trichlorophenol); 115-90-2 (Fensulfothion); 120-36-5 (Dichlorprop); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 126-75-0 (Demeton-S); 133-90-4 (Chloramben); 139-40-2 (Propazine); 150-50-5 (Merphos); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Imidan); 759-94-4 (Eptam); 786-19-6 (Carbophenothion); 789-02-6 (o,p'-DDT); 834-12-8 (Ametryn); 877-09-8; 886-50-0 (Terbutryn); 944-22-9 (Fonophos); 957-51-7 (Diphenamid); 959-

98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1689-83-4 (Ioxynil); 1689-84-5; 1861-32-1 (Dacthal); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorthalonil); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 2008-41-5 (Butylate); 2051-24-3 (Decachlorobiphenyl); 2104-64-5 (EPN); 2303-17-5 (Triallate); 2385-85-5 (Mirex); 2642-71-9 (Ethyl azinphos); 2921-88-2 (Chlorpyrifos); 3336-40-1 (Methyl ioxynil); 3424-82-6 (o,p'-DDE); 3689-24-5 (Sulfotepp); 4901-51-3 (2,3,4,5-Tetrachlorophenol); 5103-71-9 (a-Chlordane); 5103-73-1 (cis-Nonachlor); 5566-34-7 (g-Chlordane); 5598-13-0 (Methyl chlorpyrifos); 5902-51-2 (Terbacil); 7287-19-6 (Prometryn); 7600-50-2 (5-Hydroxydicamba); 13194-48-4 (Ethoprop); 15299-99-7 (Napropamide); 15972-60-8 (Alachlor); 21087-64-9 (Metribuzin); 22224-92-6 (Fenamiphos); 23950-58-5 (Pronamide); 25057-89-0 (Bentazon); 27304-13-8 (Oxychlordane); 27314-13-2 (Norflurazon); 33213-65-9 (Endosulfan II); 33616-92-1 (Dibromooctafluorobiphenyl); 34014-18-1 (Tebuthiuron); 35400-43-2 (Sulprofos); 39765-80-5 (trans-Nonachlor); 40487-42-1 (Pendimethalin); 40843-25-2 (Diclofop); 42874-03-3 (Oxyfluorfen); 50594-66-6 (Acifluorfen); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 55283-68-6 (Ethalfluralin); 55335-06-3 (Triclopyr); 56534-02-2 (a-Chlordene); 56641-38-4 (g-Chlordene) Role: ANST (Analytical study) (gas chromatog. with at. emission detection of); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (pesticides detn. in, by gas chromatog. with at. emission detection) Gas-chromatog.-at. emission detection (GC-AED) provides a high degree of elemental specificity and, in most cases, compd.-independent elemental linearity. A novel approach to calibration is described that involves a single mixt. of pesticides and exploits the advantages of GC-AED. The mixt. has been successfully employed to confirm and quantitate pesticides in a variety of matrixes through elemental ratio calcn. of compd. heteroatoms and element calibrations, resp. The elemental calibration compares favorably with more traditional external and internal calibration techniques. [on SciFinder (R)] 0888-9090 pesticide/ gas/ chromatog/ atomic/ emission

958. Omarov, L. M. ([Phthalophos and Sevin Dusts for the Control of Ticks]. *Veterinariia. 1974, apr; 50(4):37-8. [Veterinariia]: Veterinariia*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Carbaryl/*administration &amp
MESH HEADINGS: dosage/pharmacology
MESH HEADINGS: Cattle
MESH HEADINGS: Cattle Diseases/*prevention &amp
MESH HEADINGS: control
MESH HEADINGS: Pesticides/*administration &amp
MESH HEADINGS: dosage/pharmacology
MESH HEADINGS: *Tick Control
MESH HEADINGS: Tick Infestations/prevention &amp
MESH HEADINGS: control/*veterinary
MESH HEADINGS: Ticks/*drug effects
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Dusty ftalofosa i sevina dlia bor'by s kleshchami

959. Omarov, L. M. (Toxicity of Externally Applied Phthalophos to Rabbits and Cattle. *Tr. Vses. Nauch.-Issled. Inst. Vet. Sanit.35: 200-206; 1970*.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB The toxicity of cutaneously applied phthalophos (phosmet) suspensions and emulsions in rabbits and cattle was investigated in comparative studies. Spraying with 0. 25-0. 5% emulsions of phthalophos at rates up to 100 mg/kg body weight caused no effects in rabbits, while spraying with 4% and 6% emulsions corresponding to a dose of 320-480 mg/kg produced toxicosis and death. Single sprayings with 2, 3, and 4% phthalophos emulsions, corresponding to doses of 326, 456, and 600 mg/kg, caused toxicosis, while spraying with 6%

emulsion (dose 708-963 mg/kg) also produced cholinesterase inhibition of up to 89% and death. Depending on the doses, varying degrees of hypersalivation, involuntary urination, intensified peristalsis, miosis, motor coordination disorders, anorexia, diarrhea, muscle tremor, lachyrmation, dyspnea, and bradycardia were observed in such animals. Hyperemia of cutaneous vessels, lungs, liver, kidney, brain, and spleen; enlargement of the gallbladder; and hemorrhagic inflammation of the small intenstine were found at autopsy. Spraying cattle once a week with 3 liters of 0. 25-0. 5% emulsion caused no physiological or morphological changes, but it produced cholinesterase inhibition of 9. 5% and 14. 9-32. 5%, respectively.
LANGUAGE: rus

960. Omura, M., Hashimoto, K., Ohta, K., Shinji, K., Ando, K., Shimizu, Y., and Hiraide, H. (1988). Study on the Diagram of Relative Retention Time for Organophosphorus Pesticides by Gas Chromatography. *Eisei kagaku* 34: 282-290.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM PARATHION INSECTICIDE PHYSICOCHEMICAL PROPERTIES
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: jpn

961. Omura, Masami, Hashimoto, Kumiko, Ohta, Kunio, Iio, Tomoyuki, Ueda, Shigekazu, Ando, Keiko, Fujiu, Yoshinori, and Hiraide, Hikaru (1991). Effective application of the relative retention time diagram for gas chromatographic analysis of pesticides. *Journal of Agricultural and Food Chemistry* 39: 2200-5.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:2197
Chemical Abstracts Number: CAN 116:2197
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, by gas chromatog., relative retention diagram in);

Chromatography (pesticides detn. by, relative retention diagram in); Siloxanes and Silicones Role: USES (Uses) (Me Ph, stationary phase, in gas chromatog. of pesticides); Siloxanes and Silicones Role: USES (Uses) (Me Ph, hydroxy-terminated, stationary phase, in gas chromatog. of pesticides); Rubber Role: USES (Uses) (cyanoethyl Me, di-Me, stationary phase, in gas chromatog. of pesticides); Siloxanes and Silicones Role: USES (Uses) (di-Me, stationary phase, in gas chromatog. of pesticides)
CAS Registry Numbers: 50-29-3 (p,p'-DDT); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 72-20-8 (Endrin); 72-54-8 (p,p'-DDD); 72-55-9 (p,p'-DDE); 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5; 133-06-2; 298-00-0 (Parathion-methyl); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 732-11-6 (Phosmet); 789-02-6; 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1194-65-6 (Dichlobenil); 1836-77-7 (Chlornitrofen); 1897-45-6 (Chlorothalonil); 2104-64-5 (EPN); 2274-67-1 (Dimethylvinphos); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2540-82-1 (Formothion); 2597-03-7 (Phenthoate); 2921-88-2; 3424-82-6 (o,p'-DDE); 3811-49-2 (Salithion); 5598-13-0 (Chlorpyrifos-methyl); 7292-16-2 (Propaphos); 8022-00-2 (Demeton-methyl); 13067-93-1 (Cyanofenphos); 17109-49-8 (Edifenphos); 18708-86-6 (a-Chlorfenvinphos); 18708-87-7 (b-Chlorfenvinphos); 18854-01-8; 22248-79-9 (Tetrachlorvinphos); 26087-47-8; 27355-22-2 (Tetrachlorophthalide); 28249-77-6 (Thiobencarb); 33213-65-9 (b-Endosulfan); 34643-46-4 (Prothiophos) Role: ANT (Analyte), ANST (Analytical study) (detn. of, by gas chromatog., relative retention diagram in); 25036-49-1 (DEGA); 56283-90-0 (DEGS); 56592-21-3 (20M); 75617-77-5 (QF-1) Role: ANST (Analytical study) (stationary phase, in gas chromatog. of pesticides) To graphically grasp the behavior of pesticides among the liq. phases and to establish efficient operating conditions for gas chromatog. (GC) anal. of pesticides, the relative retention times (RRT) of 58 pesticides vs. chlorpyrifos were detd. on 8 liq. phases. An RRT diagram was prepd. by plotting the RRT of each pesticide on the horizontal axis and the McReynolds const. on the vertical axis. By using chlorpyrifos as a ref. compd., which has wide sensitivity for several GC detectors, the RRT diagram method was found to be a useful compass for GC anal. These results demonstrated that the RRT diagram could be used to det. the optimal operating conditions for qual. GC anal. of residual pesticides and to know their properties in liq. phase. Thus, the RRT diagram was found to be a very effective tool for confirmation of each pesticide in GC anal. [on SciFinder (R)] 0021-8561 pesticide/ chromatog/ retention/ time/ diagram

962. Ono, Yukiko , Yamagami, Takashi, Nishina, Takeshi, and Tobino, Toshiaki (2006). Pesticide multiresidue analysis of 303 compounds using supercritical fluid extraction. *Analytical Sciences* 22: 1473-1476.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:120559
Chemical Abstracts Number: CAN 146:416622
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 17
Document Type: Journal
Language: written in English.
Index Terms: Citrus sinensis; Food analysis; Glycine max; Orange; Pesticides; Soybean; Spinach; Spinacia oleracea (pesticide multiresidue anal. using supercrit. fluid extn.)
CAS Registry Numbers: 51-03-6 (Piperonylbutoxide); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 78-34-2 (Dioxathion); 78-48-8 (DEF); 80-33-1 (Chlorfenson); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 87-41-2 (Phthalide); 90-98-2; 92-52-4 (Biphenyl); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-18-0

(Tecnazene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 133-07-3 (Folpet); 141-66-2 (Dicrotophos); 298-00-0 (Methylparathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 300-76-5 (Dibrom); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 584-79-2 (Allethrin); 588-22-7 (3,4-DA); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 731-27-1D (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 834-12-8 (Ametryn); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (a-Endosulfan); 1014-70-6 (Simetryn); 1085-98-9 (Dichlofluanid); 1085-98-9D; 1113-02-6 (Omethoate); 1194-65-6 (Dichlobenil); 1582-09-8 (Trifluralin); 1698-60-8 (Chloridazon); 1836-75-5 (Nitrofen); 1836-77-7 (Chlornitrofen); 1861-40-1 (Benfluralin); 1897-45-6; 1912-24-9 (Atrazine); 1918-11-2 (Terbucarb); 1918-16-7 (Propachlor); 1918-18-9 (Swep); 2008-41-5 (Butylate); 2008-58-4 (2,6-Dichlorobenzamide); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2164-08-1 (Lenacil); 2212-67-1 (Molinate); 2274-67-1 (Dimethylvinphos); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2425-06-1 (Captafol); 2425-10-7 (Xylylcarb); 2439-01-2 (Chinomethionat); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2797-51-5 (ACN); 2921-88-2 (Chlorpyrifos); 3689-24-5 (Sulfotep); 3811-49-2 (Dioxabenzofos); 4726-14-1 (Nitralin); 5131-24-8 (Ditalimfos); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 5902-51-2 (Terbacil); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7292-16-2 (Propaphos); 7696-12-0 (Tetramethrin); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10443-70-6 (MCPB ethyl ester); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 13684-56-5 (Desmedipham); 15299-99-7 (Napropamide); 15972-60-8 (Alachlor); 16118-49-3 (Carbetamide); 17109-49-8 (Edifenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19666-30-9 (Oxadiazon); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22936-75-0 (Dimethametryn); 23184-66-9 (Butachlor); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24151-93-7 (Piperophos); 24353-61-5 (Isocarbophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 25319-90-8 (Phenothiol); 26002-80-2 (Phenothrin); 26087-47-8 (Iprobenfos); 27512-72-7 (Ethychlozate); 28249-77-6 (Benthiocarb); 28434-01-7 (Bioresmethrin); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 32809-16-8 (Procymidone); 32861-85-1 (Chlormethoxynil); 33089-61-1 (Amitraz); 33213-65-9 (b-Endosulfan); 34256-82-1 (Acetochlor); 34643-46-4 (Prothiofos); 35400-43-2 (Sulprofos); 35554-44-0 (Bromazil); 35575-96-3 (Azamethiphos); 36335-67-8 (Butamifos); 36734-19-7 (Iprodione); 36734-19-7D (Iprodione); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55290-64-7 (Dimethipin); 55814-41-0 (Mepronil); 57018-04-9 (Tolclofos-methyl); 57369-32-1 (Pyroquilon); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-31-0 (Azaconazole); 60207-90-1 (Propiconazole); 60238-56-4 (Chlorthiophos); 61432-55-1 (Dimepiperate); 62850-32-2 (Fenothiocarb); 64249-01-0 (Anilofos); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 66441-23-4 (Fenoxaprop-ethyl); 67564-91-4 (Fenpropimorph); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68505-69-1 (Benfuresate); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 70193-21-4 (Trichlamide); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 73250-68-7 (Mefenacet); 74712-19-9 (Bromobutide); 74782-23-3 (Oxabetrinil); 75736-33-3 (Diclobutrazol); 76578-14-8 (Quizalofop-ethyl); 76738-62-0 (Paclobutrazol); 77732-09-3 (Oxadixyl); 79538-32-2 (Tefluthrin); 79540-50-4 (Etobenzanid); 79983-71-4 (Hexaconazole); 80844-07-1 (Ethofenprox); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 83657-22-1 (Uniconazole); 83657-24-3 (Diniconazole); 84496-56-0 (Clomeprop); 85509-19-9 (Flusilazole); 85509-19-9D (Flusilazole); 85785-20-2 (Esprocarb); 87130-20-9 (Diethofencarb); 87674-68-8 (Dimethenamid); 87818-31-3 (Cinmethylin); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 88678-67-5 (Pyributicarb); 89269-64-7 (Ferimzone); 89784-60-1 (Pyraclofos); 94361-06-5 (Cyproconazole); 95465-99-9 (Cadusafos); 95737-68-1

(Pyriproxyfen); 96489-71-3 (Pyridaben); 96491-05-3 (Thenylchlor); 97886-45-8 (Dithiopyr); 98886-44-3 (Fosthiazate); 101007-06-1 (Acrinathrin); 103361-09-7 (Flumioxazin); 105024-66-6 (Silafluofen); 105779-78-0 (Pyrimidifen); 107534-96-3 (Tebuconazole); 110488-70-5 (Dimethomorph); 110956-75-7 (Pentoxazone); 111566-22-4 (Isozophos); 111872-58-3 (Halfenprox); 114369-43-6 (Fenbuconazole); 115852-48-7 (Fenoxanil); 116255-48-2 (Bromuconazole); 117337-19-6 (Fluthiacet-methyl); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenoconazole); 120068-37-3 (Fipronil); 121552-61-2 (Cyprodinil); 122008-85-9 (Cyhalofop-butyl); 122453-73-0 (Chlorfenapyr); 123572-88-3 (Furametpyr); 123572-88-3D (Furametpyr); 125306-83-4 (Cafenstrole); 128639-02-1 (Carfentrazone-ethyl); 129558-76-5 (Tolfenpyrad); 129630-19-9 (Pyraflufen-ethyl); 130000-40-7 (Thifluzamide); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 133220-30-1 (Indanofan); 133408-50-1 (Metominostrobin); 134605-64-4 (Butafenacil); 136426-54-5 (Fluquinconazole); 141517-21-7 (Trifloxystrobin); 143390-89-0 (Kresoxim-methyl); 147411-69-6 ((E)-Pyriminobac-methyl); 147411-70-9 ((Z)-Pyriminobac-methyl); 148477-71-8 (Spirodiclofen); 149508-90-7 (Simeconazole); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 173584-44-6 (Indoxacarb); 178602-66-9 (Prohydrojasmon); 180409-60-3 (Cyflufenamid); 229977-93-9 (Fluacrypyrim); 883988-85-0 (OPP) Role: ANT (Analyte), ANST (Analytical study) (pesticide multiresidue anal. using supercrit. fluid extn.)
Citations: 1) Ministry Of Health; http://www.mhlw.go.jp/topics/bukyoku/iyaku/syoku-anzen/positivelist/040806-1 html
Citations: 2) Luke, M; J Assoc Off Anal Chem 1975, 58, 1020
Citations: 3) Cairns, T; Rapid Commun Mass Spectrom 1993, 7, 1070
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Citations: 5) Lee, S; Fresenius J Anal Chem 1991, 339, 376
Citations: 6) Nemoto, S; J Food Hygienics Soc Jpn 2000, 41, 233
Citations: 7) Tsumura, Y; J Food Hygienics Soc Jpn 2003, 44, 234
Citations: 8) Kakimoto, Y; J Food Hygienics Soc Jpn 2003, 44, 253
Citations: 9) Anastassiades, M; J AOAC Int 2003, 86, 412
Citations: 10) Lehotay, S; J AOAC Int 2005, 88, 595
Citations: 11) Lehotay, S; J Chromatogr, A 1997, 785, 289
Citations: 12) Lehotay, S; J AOAC Int 2002, 85, 1148
Citations: 13) Nemoto, S; Proceedings of the 84th Japan Food Hygienic Symposium, Abstract 44 2002
Citations: 14) Nishina, T; Proceedings of the 27th Analysis of Pesticide Residues Symposium 2004 Compared to generally used solvent extn. methods, supercrit. fluid extn. (SFE) with carbon dioxide has the advantages of automation and simple operation in prepg. samples for pesticide residue anal. This report is the outcome of our evaluation of the practicality of SFE for the prepn. of samples for pesticide residue anal. We studied the recovery of 303 compds. with several crops by a simultaneous anal. method of SFE, cartridge column purifn., followed by GC/MS detn. We achieved 70 to 120% recovery for more than 80% of the examd. compds. [on SciFinder (R)] 0910-6340 pesticide/ multiresidue/ analysis/ supercrit/ fluid/ extn

963. Oomen, P. A. (1986). A Sequential Scheme for Evaluating the Hazard of Pesticides to Bees, Apis mellifera. *Meded.Fac.Landbouwwet.Rijksuniv.Gent* 51: 1205-1214.
Chem Codes: Chemical of Concern: MOM,CYP,DOD,MTM,MANEB,CTN,Captan,MLN,PSM,EFV,FRM Rejection Code: REVIEW.

964. Ortelli, Didier, Edder, Patrick, and Corvi, Claude (2005). Pesticide residues survey in citrus fruits. *Food Additives & Contaminants* 22: 423-428.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:511991
Chemical Abstracts Number: CAN 143:132088

Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Citrus; Food contamination; Pesticides (pesticide residues in citrus fruits)
CAS Registry Numbers: 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 115-32-2 (Dicofol); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1085-98-9 (Dichlofluanid); 1563-66-2 (Carbofuran); 2921-88-2 (Chlorpyrifos); 10605-21-7 (Carbendazim); 23564-05-8 (Thiophanate-methyl); 29232-93-7 (Pirimiphos-methyl); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 57018-04-9 (Tolclophos-methyl); 57837-19-1 (Metalaxyl); 65907-30-4 (Furathiocarb); 66246-88-6 (Penconazole); 67747-09-5 (Prochloraz); 69327-76-0 (Buprofezin); 74115-24-5 (Clofentezine); 78587-05-0 (Hexythiazox); 88671-89-0 (Myclobutanil); 96489-71-3 (Pyridaben); 107534-96-3 (Tebuconazole); 110488-70-5 (Dimethomorph); 112143-82-5 (Triazamate); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenoconazole); 120928-09-8 (Fenazaquin); 126833-17-8 (Fenhexamid); 138261-41-3 (Imidacloprid) Role: POL (Pollutant), OCCU (Occurrence) (pesticide residues in citrus fruits)
Citations: Anastassiades, M; Journal of Chromatography A 1998, 825, 45
Citations: Blasco, C; Journal of Chromatography A 2004, 1043, 231
Citations: Eec; Official Journal of the European Communities 1976, L340, 34
Citations: Eec; Official Journal of the European Communities 1986, L221, 37
Citations: Eec; Official Journal of the European Communities 1986, L221, 43
Citations: Eec; Official Journal of the European Communities 1990, L350, 71
Citations: Eec; Official Journal of the European Communities 2002, L221, 8
Citations: Anon; 1998, EN 12393
Citations: Fernandez, M; Food Additives and Contaminants 2001, 18, 615
Citations: Ito, Y; Journal of Agricultural and Food Chemistry 2003, 51, 861
Citations: Ortelli, D; Analytica Chimica Acta 2004, 520, 33
Citations: Schirra, M; Journal of Agricultural and Food Chemistry 2002, 50, 2293
Citations: Anon; Swiss regulation RS 817.021.23 2002
Citations: Anon; Swiss regulation RS 910.181 1997
Citations: Valenzuela, A; Journal of Chromatography A 1999, 839, 101
Citations: Watanabe, E; Journal of Agricultural and Food Chemistry 2000, 48, 5124
Citations: Wills, R; Postharvest An introduction to the physiology and handling of fruit, vegetables and ornamentals 4th ed 1998, 144
Citations: Yoshioka, N; Journal of Chromatography A 2004, 1022, 145
Citations: Zamora, T; Journal of Chromatography A 2004, 1045, 137 The use of pesticides is widespread in citrus fruits prodn. for pre- and post-harvest protection and many chem. substances may be applied in order to control undesirable molds or insects. A survey was carried out to evaluate levels of pesticide residues in citrus fruits. Two multiresidue anal. methods were used to screen samples for more than 200 different fungicides, insecticides and acaricides. A total of 240 samples of citrus fruits including lemon, orange, mandarin, grapefruit, lime, pomelo and kumquat were taken in various markets in the Geneva area during the year 2003. Ninety-five percent of the 164 samples issued from classical agriculture contained pesticides and 38 different compds. were identified. This high percentage of pos. samples was mainly due to the presence of two post-harvest fungicides, imazalil and thiabendazole, detected in 70% and 36% of samples resp. Only three samples exceeded the Swiss max. residue limits (MRLs). Fifty-three samples sold with the written indication \"without post-harvest treatment\" were also controlled. Among theses samples, 3 exceeded the Swiss MRLs for penconazole or chlorpyrifos and 18 (34%) did not respect the written indication since the authors found large amts. of post-harvest fungicides. Finally, 23 samples coming from certified org. prodn. were analyzed. Among theses samples, three contained small amts. of pesticides and the others were pesticides free. [on SciFinder (R)] 0265-203X
pesticide/ food/ contamination/ Citrus/ fruit

965. Oset-Gasque, M. J., Parram&Oacute, N, M., Gonz&Aacute, and Lez, M. P. (Gabab Receptors Modulate

Catecholamine Secretion in Chromaffin Cells by a Mechanism Involving Cyclic Amp Formation. *Br j pharmacol. 1993, dec; 110(4):1586-92. [British journal of pharmacology]: Br J Pharmacol.* Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ABSTRACT: 1. The function of gamma-aminobutyric acidB (GABAB) receptors in modulation of catecholamine secretion by chromaffin cells and the possible mechanism involved in this action have been examined. 2. The GABAB agonists (-)-baclofen and 3-aminopropylphosphinic acid (3-APPA) were found to induce a dose-dependent increase of basal catecholamine secretion. The EC50s were 151 +/- 35 microM and 225 +/- 58 microM for baclofen and 3-APPA, respectively. This stimulatory effect was specific since it could be blocked by 0.5 mM of the specific GABAB antagonist CGP-35348. 3. In contrast, preincubation of chromaffin cells with the GABAB agonists was found to inhibit, in a dose-dependent manner, the catecholamine secretion evoked by 10 microM nicotine and 200 microM muscimol. 4. The effects of GABAB agonists on both basal and evoked catecholamine secretion were found to be accompanied by parallel changes in intracellular calcium concentration ([Ca2+]i). GABAB agonists produced a dose-dependent increase in [Ca2+]i which was partially blocked by CGP 35348, but they produced a strong inhibition of the [Ca2+]i increase induced by nicotine and muscimol. 5. The GABAB agonists also produced a dose-dependent increase in intracellular cyclic AMP levels, there being a direct correlation between both increase in catecholamine secretion and in intracellular cyclic AMP levels. 6. The pretreatment of chromaffin cells with pertussis toxin doubled the catecholamine secretion and increased by four times the intracellular cyclic AMP levels evoked by GABAB agonists. 7. The possible involvement of adenylate cyclase in the mechanism of GABAA receptor modulation of catecholamine secretion is discussed.
MESH HEADINGS: Adenylate Cyclase Toxin
MESH HEADINGS: Animals
MESH HEADINGS: Baclofen/pharmacology
MESH HEADINGS: Calcium/metabolism
MESH HEADINGS: Catecholamines/*secretion
MESH HEADINGS: Cattle
MESH HEADINGS: Cells, Cultured
MESH HEADINGS: Cholera Toxin/pharmacology
MESH HEADINGS: Chromaffin Granules/*secretion
MESH HEADINGS: Cyclic AMP/*physiology
MESH HEADINGS: Forskolin/pharmacology
MESH HEADINGS: Organophosphorus Compounds/pharmacology
MESH HEADINGS: Pertussis Toxin
MESH HEADINGS: Receptors, GABA-B/*physiology
MESH HEADINGS: Virulence Factors, Bordetella/pharmacology
LANGUAGE: eng

966. Oshiro, Yuki and Eylar, E. H. (1969). Physical and chemical studies on glycoproteins : IV. The influence of sialic acid on the conformation of fetuin. *Archives of Biochemistry and Biophysics* 130: 227-234. Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The influence of sialic acid on the conformation of fetuin was investigated by comparing desialized fetuin with untreated fetuin using four different physical chemical techniques. The strong contribution of sialic acid to the acidic properties of fetuin was shown by the rise in the isoionic point from 4.23 to 5.57 for desialized fetuin. Comparison of the titration curves for both the desialized and untreated fetuin revealed that the number of titratable groups in the acidic, neutral, and basic regions agreed with the number expected from the amino acid analysis. The main difference between the two curves was the presence of additional titratable groups in the titration curve of fetuin in the region below pH 4 where the sialic acid carboxyl groups titrate. No evidence was found for the presence of free amino groups of the hexosamine residues, indicating that the amino sugar exists in fetuin as the acetylated derivative. There was no significant difference between the experimental electrostatic interaction factor w, 0.031, whose calculation is based on the carboxyl groups of desialized fetuin, and the experimental value, 0.029. The results

from viscosity studies show that both proteins are fairly compact molecules having a conformation approximated by a prolate ellipsoid of revolution with an axial ratio of 5:1. There was little difference in the intrinsic viscosity of fetuin (5.5 ml/g) and desialized fetuin (5.2 ml/g). These data indicate that no appreciable conformational changes take place on removal of the sialic acid from fetuin. The results from optical rotatory dispersion and circular dichroism studies were inconclusive; at most only a small percentage of secondary structure was indicated. It was concluded that fetuin has a slightly elongated but compact molecular conformation possibly having some secondary structure; removal of the sialic acid does not alter this structure appreciably. http://www.sciencedirect.com/science/article/B6WB5-4DW2F04-RM/2/88f8936778c043ee429689b404cc2aed

967. Ostanin, K. and Van Etten, R. L. (Asp304 of Escherichia Coli Acid Phosphatase Is Involved in Leaving Group Protonation. *J biol chem. 1993, oct 5; 268(28):20778-84. [The journal of biological chemistry]: J Biol Chem*.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: Site-directed mutagenesis was used to explore the role of potential proton donors in the mechanism of the Escherichia coli acid phosphatase that is encoded by the appA gene. Asp304 appeared to be the only carboxylic acid residue that is conserved in the protein sequences of the high molecular weight acid phosphatases. The mutations Asp304Ala and Asp304Glu were introduced into appA and the corresponding proteins were overexpressed in E. coli and purified to homogeneity. Only small decreases were observed for the Km values of the substrates p-nitrophenyl phosphate, fructose 1,6-diphosphate, and tripolyphosphate. However, Vmax was greatly decreased, and the magnitude of effect depended markedly on substrate. Both mutant proteins exhibited significantly lower Vmax values with fructose 1,6-diphosphate, which possesses a much poorer leaving group than do the other two substrates. The importance of the leaving group was further tested by using a number of phenyl and alkyl phosphate derivatives as substrates. A linear correlation was observed between log Vmax and the pKa of the substrate leaving group for catalysis by the Asp304Ala mutant enzyme. These results are consistent with partition experiments using ethylene glycol as an alternate nucleophile, which indicated that for the Asp304Ala protein, the formation of a phosphoenzyme intermediate is the rate-determining step, in contrast to the situation for the wild type enzyme and the His303Ala mutant. In the latter case, the rate-limiting step of the reaction is interpreted to be the breakdown of phosphoenzyme. It is concluded that Asp304, rather than His303, is involved in protonation of the substrate leaving group.
MESH HEADINGS: Acid Phosphatase/*chemistry/metabolism
MESH HEADINGS: Aspartic Acid/*chemistry
MESH HEADINGS: Base Sequence
MESH HEADINGS: DNA, Single-Stranded
MESH HEADINGS: Deuterium/chemistry
MESH HEADINGS: Escherichia coli/*enzymology
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Isotopes
MESH HEADINGS: Kinetics
MESH HEADINGS: Molecular Sequence Data
MESH HEADINGS: Mutagenesis, Site-Directed
MESH HEADINGS: Phosphates/chemistry
MESH HEADINGS: Protons
MESH HEADINGS: Substrate Specificity
LANGUAGE: eng

968. Owens, L. B., Malone, R. W., Shipitalo, M. J., Edwards, W. M., and Bonta, J. V. (2000). Lysimeter Study of Nitrate Leaching From a Corn-Soybean Rotation. *Journal of Environmental Quality, 29 (2) pp. 467-474, 2000*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0047-2425
Abstract: High rates of N fertilizer in the production of continuous corn (Zea mays L.) have resulted in excessive nitrate N (NO inferior 3-N) leaching, with concentrations in ground water frequently exceeding the maximum contaminant level (MCL) of 10 mg/L. This study was conducted to determine whether NO inferior 3-N leaching would be reduced by allowing for a legume N credit for soybean [Glycine max (L.) Merr.], and applying less N fertilizer to corn in a corn- soybean rotation than would be applied to continuous corn. A rye (Secale cereale L.) winter cover crop was used following soybean. In the spring of each corn year, 140 kg N/ha as NH inferior 4NO inferior 3 was surface applied to two large, undisturbed monolith lysimeters (8.1 m superior 2 surface area, 2.4 m deep), and 196 kg N/ha was applied to two other lysimeters. Prior to 6 yr of this treatment, there was a 6 yr period during which lysimeters received 224 kg N/ha in the spring of the corn year. The highest NO inferior 3-N concentrations and the most transport occurred during the winter/spring soil moisture recharge period (November through April). Concentrations of NO inferior 3-N in the percolate from all four lysimeters were similar, with a 6-yr, flow-weighted average of 9.9 plus-or-minus 2.5 mg/L. Although reducing N fertilizer inputs in a corn-soybean rotation to allow for a legume N credit may lower N leaching amounts and concentrations, the NO inferior 3-N MCL may still be exceeded. For a given year, weather can impact percolation and leaching more than the current crop.
33 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.10.1.5 CROP SCIENCE: Crop Physiology: Fertilizer effects
Classification: 92.10.1.1 CROP SCIENCE: Crop Physiology: Cereals
Subfile: Plant Science

969. Pai Su-Cheng, Chung Shi-Wei, Ho Tung-Yuan, and Tsau Yung-Jing (1996). Determination of Nano-Molar Levels of Nitrite in Natural Water by Spectrophotometry After Pre-Concentration Using Sep-Pak C Sub(18) Cartridge. *International Journal of Environmental Analytical Chemistry [INT. J. ENVIRON. ANAL. CHEM.]. Vol. 62, no. 3, pp. 175-189. 1996.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

ISSN: 0306-7319
Descriptors: Article Subject Terms: spectrophotometry
Descriptors: nitrites
Descriptors: water sampling
Descriptors: pollution detection
Descriptors: dyes
Descriptors: pollutant identification
Descriptors: water pollution
Descriptors: water analysis
Descriptors: chemical analysis
Descriptors: analytical techniques
Descriptors: spectroscopic techniques
Abstract: Nitrite in natural water was allowed to react with sulphanilamide (SUL) and N-1-naphthylethylenediamine (NED) reagents to form a pink azo dye, which was quantitatively adsorbed onto a Sep-Pak C sub(18) cartridge and was later recovered by eluting with a mixture containing 38% v/v ethanol and 60 mM HCl. The percolate was measured by a spectrophotometer at 543 n. The molar extinction coefficient of the dye in the final solution was found to be 5 x 10 super(4) M super(-1) cm super(-1). Using the proposed manual procedure, nitrite in up to 500 mL of freshwater and 1.5 L of seawater could be concentrated to a final 10 mL with a recovery of >98%. The detection limit was found to be 0.6 nM and 0.2 nM for 500 mL and 1.5 L sizes of sample. A precision of less than 2% at 20-80 nM level could be readily achieved. The cartridge also served for the preservation purpose, as the bound pink azo dye could be stored for up to 4

days without significant change. The proposed manual procedure has been automated by a cycling loop system to suit ship-board determination.
Language: English
English
Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: P 1000 MARINE POLLUTION
Classification: Q5 01503 Characteristics, behavior and fate
Classification: SW 3010 Identification of pollutants
Classification: P 2000 FRESHWATER POLLUTION
Subfile: Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts

970. Paing, J. and Voisin, J. (2005). Vertical Flow Constructed Wetlands for Municipal Wastewater and Septage Treatment in French Rural Area. *Water Science and Technology, 51 (9) pp. 145-155, 2005.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0273-1223
Descriptors: Constructed wetland
Descriptors: Vertical flow reed-bed filter
Descriptors: Municipal wastewater
Descriptors: Septage treatment
Abstract: This paper presents the purification performance of 20 wastewater treatment plants with vertical reed bed filters (Macrophyltres(registered trademark)), built between 1998 and 2003 by SAS Voisin, for communities of between 150 and 1400 PE. The first stage vertical reed bed (directly fed with raw wastewater by intermittent feeding) achieved high remova of SS, BOD and COD (mean respectively 96%, 98%, 92%). The second stage permitted compliance easily with effluent standards (SS < 15 mg/l, BOD < 15 mg/l, COD < 90 mg/l and mean TKN < 10 mg/l). Performance was not significantly influenced by variations of organic and hydraulic load, nor by seasonal variations. Rigorous operation and maintenance were required to obtain optimal performances. Another application of vertical reed beds is the treatment of septage (sludge from individual septic tanks). The results obtained on two sites operating for 2 and 3 years are presented. The first site achieved complete treatment of septage (solid and liquid fraction), the second permitted a pre-treatment for co-treatment of percolate with wastewater. (copyright) 2005 IWA Publishing and the authors.
11 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.9.1.5 BIOTECHNOLOGY: Biotechnology and Bioengineering: Waste/pollutant treatment
Subfile: Plant Science

971. Paldy, A., Puskas, N., Vincze, K., and Hadhazi, M. (1987). Cytogenetic Studies on Rural Populations Exposed to Pesticides. *Mutat res* 187: 127-132.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM HUMAN WORKER CHROMOSOME ABERRATION ALCOHOLISM SMOKING
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: HUMAN
MESH HEADINGS: GENETICS, MEDICAL
MESH HEADINGS: BEHAVIOR

MESH HEADINGS: HUMAN
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: SUBSTANCE-RELATED DISORDERS
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/CHEMISTRY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Cytology and Cytochemistry-Human
KEYWORDS: Genetics and Cytogenetics-Human
KEYWORDS: Behavioral Biology-Human Behavior
KEYWORDS: Biochemical Studies-General
KEYWORDS: Psychiatry-Addiction-Alcohol
KEYWORDS: Toxicology-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Plant Physiology
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

972. Pang, G.-F. , Fan, C.-L., Liu, Y.-M., Cao, Y.-Z., Zhang, J.-J., Fu, B.-L., Li, X.-M., Li, Z.-Y., and Wu, Y.-P (2006). Multi-residue method for the determination of 450 pesticide residues in honey, fruit juice and wine by double-cartridge solid-phase extraction/gas chromatography-mass spectrometry and liquid chromatography-tandem mass spectrometry. *Food Additives & Contaminants* 23: 777-810. Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2006:798808
Chemical Abstracts Number: CAN 145:437387
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Apple juice; Food analysis; Fruit and vegetable juices; Honey; Pear juice; Pesticides; Tandem mass spectrometry; Wine analysis (detn. of pesticide residues in honey, fruit juice and wine); Mass spectrometry (liq. chromatog. combined with; detn. of pesticide residues in honey, fruit juice and wine); Liquid chromatography (mass spectrometry combined with; detn. of pesticide residues in honey, fruit juice and wine); Wine (red; detn. of pesticide residues in honey, fruit juice and wine); Extraction (solid-phase; detn. of pesticide residues in honey, fruit juice and wine); Wine (white; detn. of pesticide residues in honey, fruit juice and wine)
CAS Registry Numbers: 50-29-3; 51-03-6 (Piperonyl butoxide); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Gamma-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8

(DEF); 80-06-8 (Chlorfenethol); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 81-14-1 (Musk ketone); 81-15-2 (Musk xylene); 82-68-8 (Quintozene); 83-66-9 (Musk ambrette); 84-65-1 (Anthraquinone); 85-68-7 (Phthalic acid, benzyl butyl ester); 86-50-0 (Azinphos-methyl); 90-43-7 (2-Phenylphenol); 90-98-2 (4,4'-Dichlorobenzophenone); 92-52-4 (Biphenyl); 93-71-0 (Allidochlor); 95-06-7 (Sulfallate); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 103-17-3 (Chlorbenside); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-32-2 (Dicofol); 115-86-6 (Triphenyl phosphate); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 116-66-5 (Musk moskene); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 126-71-6 (Tri-iso-butyl phosphate); 126-73-8 (Tri-N-butyl phosphate); 133-07-3 (Folpet); 136-25-4 (Erbon); 139-40-2 (Propazine); 140-57-8 (Aramite); 141-66-2 (Dicrotophos); 145-39-1 (Musk tibetene); 297-78-9 (Isobenzan); 297-97-2 (Thionazin); 298-00-0 (Methyl-parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 299-86-5 (Crufomate); 301-12-2; 309-00-2 (Aldrin); 311-45-5 (Paraoxon-ethyl); 315-18-4 (Mexacarbate); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 327-98-0 (Trichloronat); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 465-73-6 (Isodrin); 470-90-6 (Chlorfenvinphos); 500-28-7 (Chlorthion); 510-15-6 (Chlorobenzilate); 527-20-8 (Pentachloroaniline); 535-89-7 (Crimidine); 563-12-2 (Ethion); 584-79-2 (Bioallethrin); 608-93-5 (Pentachlorobenzene); 626-43-7 (3,5-Dichloroaniline); 634-83-3 (2,3,4,5-Tetrachloroaniline); 640-15-3 (Thiometon); 672-99-1 (BDMC); 673-04-1 (Simeton); 709-98-8 (Propanil); 731-27-1 (Tolylfluanide); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbofenothion); 789-02-6; 834-12-8 (Ametryn); 841-06-5 (Methoprotryne); 886-50-0 (Terbutryn); 919-86-8 (Demeton-s-methyl); 938-86-3 (2,3,4,5-Tetrachloroanisole); 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-35-6 (Paraoxon-methyl); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (Endosulfan-1); 973-21-7 (Dinobuton); 1007-28-9 (Desisopropyl-atrazine); 1014-69-3 (Desmetryn); 1014-70-6 (Simetryn); 1031-07-8 (Endosulfan-sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1469-48-3; 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-17-9 (Atratone); 1610-18-0 (Prometon); 1646-87-3 (Aldicarb-sulfoxide); 1715-40-8 (Bromocyclen); 1746-81-2 (Monolinuron); 1825-21-4 (Pentachloroanisole); 1836-75-5 (Nitrofen); 1861-32-1 (Dacthal); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1912-26-1 (Trietazine); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 2008-41-5 (Butylate); 2008-58-4 (2,6-Dichlorobenzamide); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromofos); 2163-69-1 (Cycluron); 2164-08-1 (Lenacil); 2212-67-1 (Molinate); 2227-13-6 (Tetrasul); 2275-23-2 (Vamidothion); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2463-84-5 (Dicapthon); 2464-37-1 (Chlorflurenol); 2497-06-5 (Disulfoton sulfone); 2497-07-6 (Disulfoton-sulfoxide); 2540-82-1 (Formothion); 2588-04-7 (Phorate sulfone); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2675-77-6 (Chloroneb); 2686-99-9 (3,4,5-Trimethacarb); 2921-88-2 (Chlorpyrifos-ethyl); 3060-89-7 (Metobromuron); 3244-90-4 (Aspon); 3424-82-6; 3481-20-7 (2,3,5,6-Tetrachloroaniline); 3689-24-5 (Sulfotep); 3761-41-9 (Fenthion sulfoxide); 3761-42-0 (Fenthion sulfone); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 3983-45-7 (Fenchlorphos oxon); 3988-03-2 (4,4'-Dibromobenzophenone); 4147-51-7 (Dipropetryn); 4658-28-0 (Aziprotryne); 4726-14-1 (Nitralin); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5221-49-8 (Pyrimitate); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6108-10-7 (e-HCH); 6190-65-4 (Atrazine-desethyl); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7012-37-5; 7082-99-7 (Chlorbenside sulfone); 7286-69-3 (Sebuthylazine); 7287-19-6 (Prometryne); 7287-36-7 (Monalide); 7292-16-2 (Propaphos); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 10453-86-8 (Resmethrin); 10552-74-6 (Nitrothal-isopropyl); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14437-17-3 (Chlorfenprop-methyl); 15299-99-7

(Napropamide); 15310-01-7 (Benodanil); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16606-02-3; 16655-82-6 (3-Hydroxy carbofuran); 16752-77-5 (Methomyl); 17040-19-6 (Demeton-s-methyl sulfone); 17109-49-8 (Edifenphos); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 18691-97-9 (Methabenzthiazuron); 19480-43-4 (MCPA-butoxyethyl ester); 19666-30-9 (Oxadiazone); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 21757-82-4 (Plifenate); 22212-55-1 (Benzoylprop-ethyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 22936-86-3 (Cyprazine); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 23950-58-5 (Pronamide); 24017-47-8 (Triazophos); 24353-61-5 (Isocarbophos); 24579-73-5 (Propamocarb); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 26087-47-8 (Iprobenfos); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 27304-13-8 (Oxy-chlordane); 27314-13-2 (Norflurazon); 28249-77-6 (Thiobencarb); 29082-74-4 (Octachlorostyrene); 29091-05-2 (Dinitramine); 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 30979-48-7; 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 31508-00-6; 31972-43-7 (Fenamiphos sulfoxide); 31972-44-8 (Fenamiphos sulfone); 32809-16-8 (Procymidone); 33089-61-1 (Amitraz); 33245-39-5 (Fluchloralin); 33399-00-7 (Bromfenvinfos); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34123-59-6 (Isoproturon); 34205-21-5 (Dimefuron); 34643-46-4 (Prothiophos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 34681-24-8 (Butocarboxim-sulfoxide); 35065-27-1; 35065-28-2; 35065-29-3; 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35693-99-3; 37019-18-4; 37680-73-2; 37764-25-3 (Dichlormid); 38260-54-7 (Etrimfos); 39184-27-5 (Thiofanox-sulfoxide); 39184-59-3 (Thiofanox-sulfone); 39515-41-8 (Fenpropathrin); 39765-80-5 (trans-Nonachlor); 40020-01-7; 40341-04-6 (Rabenzazole); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42576-02-3 (Bifenox); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51235-04-2 (Hexazinone); 51338-27-3 (Dichlofop-methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52756-22-6 (Flamprop-isopropyl); 52756-25-9 (Flamprop-methyl); 52888-80-9 (Prosulfocarb); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 53380-22-6 (Ethiofencarb-sulfoxide); 53380-23-7 (Ethiofencarb-sulfone); 53490-78-1 (Desbromo-leptophos); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55290-64-7 (Dimethipin); 55512-33-9 (Pyridate); 55814-41-0 (Mepronil); 56070-16-7 (Terbufos sulfone); 57018-04-9 (Tolclofos-methyl); 57052-04-7 (Isomethiozin); 57837-19-1 (Metalaxyl); 59399-24-5 (Etrimfos oxon); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 60238-56-4 (Chlorthiophos); 61213-25-0; 61432-55-1 (Dimepiperate); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 62850-32-2 (Fenothiocarb); 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 64249-01-0 (Anilofos); 65907-30-4 (Furathiocarb); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 67129-08-2 (Metazachlor); 67375-30-8 (Alpha-cypermethrin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 69806-40-2 (Haloxyfop-methyl); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 73250-68-7 (Mefenacet); 74051-80-2 (Sethoxydim); 74738-17-3 (Fenpiclonil); 75736-33-3 (Diclobutrazol); 76578-14-8 (Quizalofop-ethyl); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 77501-90-7 (Fluoroglycofen-ethyl); 77732-09-3 (Oxadixyl); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 79983-71-4 (Hexaconazole); 80844-07-1 (Etofenprox); 81406-37-3 (Fluroxypyr-1 methylheptyl ester); 81777-89-1 (Clomazone); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 83657-22-1 (Uniconazole); 83657-24-3 (Diniconazole); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 86209-51-0 (Primisulfuron-methyl); 86479-06-3 (Hexaflumuron); 86763-47-5 (Propisochlor); 87130-20-9 (Diethofencarb); 87237-48-7; 87546-18-7 (Flumiclorac-pentyl); 87674-68-8 (Dimethenamid); 88671-89-0 (Myclobutanil); 91465-08-6; 94361-06-5 (Cyproconazole); 96489-71-3 (Pyridaben); 98886-44-3 (Fosthiazate); 99607-70-2 (Cloquintocet-mexyl); 101007-06-1 (Acrinathrin); 101205-02-1 (Cycloxydim); 101463-69-8 (Flufenoxuron); 103361-09-7 (Flumioxazin); 105512-06-9 (Clodinafop-propargyl);

107534-96-3 (Tebuconazole); 111988-49-9 (Thiacloprid); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 114369-43-6 (Fenbuconazole); 116255-48-2 (Bromuconazole); 118134-30-8 (Spiroxamine); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenconazole); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 136426-54-5 (Fluquinconazole); 138261-41-3 (Imidacloprid); 140923-17-7 (Iprovalicarb); 141112-29-0 (Isoxaflutole); 143390-89-0 (Kresoxim-methyl); 173584-44-6 (Indoxacarb) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (detn. of pesticide residues in honey, fruit juice and wine)
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Citations: Yu, J; Journal of Chromatography A 2004, 1036, 101 A multi-residue method was developed for the detn. of 450 pesticide residues in honey, fruit juice and wine using double-cartridge solid-phase extn. (SPE), gas chromatog.-mass spectrometry (GC-MS) and liq. chromatog.-tandem mass spectrometry (LC-MS-MS). The method development was based on an appraisal of the characteristics of GC-MS and LC-MS-MS for 654 pesticides as well as the efficiency of extn. and purifn. from honey, fruit juice and wine. Samples were first dild. with water plus acetone, then extd. with portions of dichloromethane. The exts. were concd. and cleaned up with graphitized carbon black and aminopropyl cartridges stacked in tandem. Pesticides were eluted with acetonitrile + toluene, and the eluates were concd. For 383 pesticides, the eluate was extd. with hexane twice and internal std. soln. was added prior to GC-MS detn. For 67 pesticides, extn. was with methanol prior to LC-MS-MS detn. The limit of detection for the method was between 1.0 and 300 ng g-1 depending on each pesticide analyte. At the three fortification levels of 2.0-3000 ng g-1, the av. recovery rates were between 59 and 123%, among which 413 pesticides (92% of the 450) had recovery rates of 70-120% and 35 pesticides (8% of the 450) had recovery rates of 59-70%. There were 437 pesticides (97% of the 450) with a relative std. deviation below 25%; there were 13 varieties (3% of the 450) between 25.0 and 30.4%. [on SciFinder (R)] 0265-203X food/ analysis/ pesticide/ wine/ honey/ juice

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Database: CAPLUS
Accession Number: AN 2006:769444
Chemical Abstracts Number: CAN 145:355141
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Meat (beef; detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry); Meat (chicken; detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry); Food analysis; Pesticides; Size-exclusion chromatography (detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry); Mass spectrometry (gas chromatog. combined with; detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry); Tandem mass spectrometry (liq. chromatog. combined with; detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry); Gas chromatography (mass spectrometry combined with; detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry); Meat (mutton; detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry); Meat (pork; detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry); Oryctolagus cuniculus (rabbit meat; detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry); Meat (rabbit; detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry); HPLC (tandem mass spectrometry combined with; detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry)
CAS Registry Numbers: 50-29-3; 51-03-6 (Piperonyl butoxide); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (GammaHCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (4,4'-DDD); 72-55-9; 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8 (DEF); 80-06-8 (Chlorfenethol); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 81-15-2 (Musk xylene); 82-68-8 (Quintozene); 83-66-9 (Musk ambrette); 84-65-1 (Anthraquinone); 85-68-7 (Phthalicacid,benzyl Butyl ester); 86-50-0 (Azinphosmethyl); 90-43-7 (2-Phenylphenol); 90-98-2 (4,4'-Dichlorobenzophenone); 92-52-4 (Biphenyl); 93-71-0 (Allidochlor); 95-06-7 (Sulfallate); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 103-17-3 (Chlorbenside); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-32-2 (Dicofol); 115-86-6 (Triphenyl phosphate); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 116-66-5 (Musk moskene); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 126-71-6 (Tri-isobutyl phosphate); 126-73-8 (Tri-n-butyl phosphate); 136-25-4 (Erbon); 139-40-2 (Propazine); 140-57-8 (Aramite); 145-39-1 (Musk tibetene); 297-78-9 (Isobenzan); 297-97-2 (Thionazin); 298-00-0 (Methylparathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 299-86-5 (Crufomate); 301-12-2; 309-00-2 (Aldrin); 311-45-5 (Paraoxonethyl); 315-18-4 (Mexacarbate); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 327-98-0 (Trichloronat); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 465-73-6 (Isodrin); 470-90-6 (Chlorfenvinphos); 500-28-7 (Chlorthion); 510-15-6 (Chlorobenzilate); 527-20-8 (Pentachloroaniline); 535-89-7 (Crimidine); 563-12-2 (Ethion); 584-79-2 (Bioallethrin); 608-93-5 (Pentachlorobenzene); 626-43-7 (3,5-Dichloroaniline); 634-83-3 (2,3,4,5-Tetrachloroaniline); 640-15-3 (Thiometon); 672-99-1 (BDMC); 673-04-1 (Simeton); 709-

98-8 (Propanil); 731-27-1 (Tolylfluanide); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbofenothion); 789-02-6; 834-12-8 (Ametryn); 841-06-5 (Methoprotryne); 886-50-0 (Terbutryn); 938-86-3 (2,3,4,5-Tetrachloroanisole); 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-35-6 (Paraoxonmethyl); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (Endosulfan-1); 973-21-7 (Dinobuton); 1014-69-3 (Desmetryn); 1014-70-6 (Simetryn); 1031-07-8 (Endosulfansulfate); 1031-47-6 (Triamiphos); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1469-48-3; 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-17-9 (Atratone); 1610-18-0 (Prometon); 1646-87-3 (Aldicarbsulfoxide); 1746-81-2 (Monolinuron); 1825-21-4 (Pentachloroanisole); 1836-75-5 (Nitrofen); 1861-32-1 (Dacthal); 1861-40-1 (Benfluralin); 1912-24-9 (Atrazine); 1912-26-1 (Trietazine); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 2008-41-5 (Butylate); 2008-58-4 (2,6-Dichlorobenzamide); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromofos); 2163-69-1 (Cycluron); 2164-08-1 (Lenacil); 2212-67-1 (Molinate); 2227-13-6 (Tetrasul); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2463-84-5 (Dicapthon); 2464-37-1 (Chlorflurenol); 2497-06-5 (Disulfoton sulfone); 2497-07-6 (Disulfotonsulfoxide); 2540-82-1 (Formothion); 2588-04-7 (Phorate sulfone); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphosethyl); 2675-77-6 (Chloroneb); 2686-99-9 (3,4,5-Trimethacarb); 2921-88-2 (Chlorpyrifos-ethyl); 3060-89-7 (Metobromuron); 3244-90-4 (Aspon); 3424-82-6; 3481-20-7 (2,3,5,6-Tetrachloroaniline); 3689-24-5 (Sulfotep); 3761-41-9 (Fenthion sulfoxide); 3761-42-0 (Fenthion sulfone); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 3878-19-1 (Fuberidazole); 3983-45-7 (Fenchlorphos oxon); 3988-03-2 (4,4'-Dibromobenzophenone); 4147-51-7 (Dipropetryn); 4658-28-0 (Aziprotryne); 4726-14-1 (Nitralin); 4824-78-6 (Bromophosethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5131-24-8 (Ditalimfos); 5221-49-8 (Pyrimitate); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0 (Chlorpyrifos methyl); 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 6108-10-7 (e-HCH); 6164-98-3 (Chlordimeform); 6190-65-4 (Atrazinedesethyl); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7012-37-5 (PCB 28); 7082-99-7 (Chlorbenside sulfone); 7286-69-3 (Sebuthylazine); 7287-19-6 (Prometryne); 7287-36-7 (Monalide); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 10453-86-8 (Resmethrin); 10552-74-6 (Nitrothal-isopropyl); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14437-17-3 (Chlorfenpropmethyl); 15299-99-7 (Napropamide); 15310-01-7 (Benodanil); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16606-02-3 (PCB 31); 16655-82-6 (3-Hydroxy carbofuran); 16752-77-5 (Methomyl); 17040-19-6 (Demeton-s-methyl sulfone); 17109-49-8 (Edifenphos); 17708-57-5 (cis-Diallate); 17708-58-6 (trans-Diallate); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 18691-97-9 (Methabenzthiazuron); 19480-43-4 (MCPA butoxyethyl ester); 19666-30-9 (Oxadiazone); 19691-80-6 (Athidathion); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 21870-14-4; 22212-55-1 (Benzoylpropethyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 22936-86-3 (Cyprazine); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphosethyl); 23950-58-5 (Pronamide); 24017-47-8 (Triazophos); 24353-61-5 (Isocarbophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 26087-47-8 (Iprobenfos); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 27304-13-8 (Oxychlordane); 27314-13-2 (Norflurazon); 28249-77-6 (Thiobencarb); 28730-17-8 (Methfuroxam); 29082-74-4 (Octachlorostyrene); 29091-05-2 (Dinitramine); 29232-93-7 (Pirimiphosmethyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 30979-48-7 (Isocarbamide); 31120-85-1 (Isofenphos oxon); 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 31508-00-6 (PCB 118); 31972-43-7 (Fenamiphos sulfoxide); 31972-44-8 (Fenamiphos sulfone); 32809-16-8 (Procymidone); 33089-61-1 (Amitraz); 33213-65-9 (Endosulfan-2); 33399-00-7 (Bromfenvinfos); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34123-59-6 (Isoproturon); 34643-46-4 (Prothiophos); 34681-23-7 (Butoxycarboxim); 34681-24-8 (Butocarboximsulfoxide); 35065-27-1 (PCB 153); 35065-28-2 (PCB 138); 35065-29-3 (PCB 180); 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos);

35554-44-0 (Imazalil); 35693-99-3 (PCB 52); 37019-18-4; 37680-73-2 (PCB 101); 37764-25-3 (Dichlormid); 38260-54-7 (Etrimfos); 39184-27-5 (Thiofanoxsulfoxide); 39184-59-3 (Thiofanoxsulfone); 39515-41-8 (Fenpropathrin); 39765-80-5 (trans-Nonachlor); 40020-01-7; 40341-04-6 (Rabenzazole); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51235-04-2 (Hexazinone); 51338-27-3 (Diclofopmethyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52756-22-6 (Flamprop-isopropyl); 52756-25-9 (Flampropmethyl); 52888-80-9 (Prosulfocarb); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 53380-22-6 (Ethiofencarbsulfoxide); 53380-23-7 (Ethiofencarbsulfone); 53490-78-1 (Desbromo leptophos); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55512-33-9 (Pyridate); 55814-41-0 (Mepronil); 57018-04-9 (Tolclofosmethyl); 57052-04-7 (Isomethiozin); 57837-19-1 (Metalaxyl); 59399-24-5 (Etrimfos oxon); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 60238-56-4 (Chlorthiophos); 61213-25-0; 61432-55-1 (Dimepiperate); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 62850-32-2 (Fenothiocarb); 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 64249-01-0 (Anilofos); 65907-30-4 (Furathiocarb); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 67129-08-2 (Metazachlor); 67375-30-8 (Alphacypermethrin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69806-40-2 (Haloxyfopmethyl); 69806-50-4 (Fluazifopbutyl); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 73250-68-7 (Mefenacet); 74051-80-2 (Sethoxydim); 74223-64-6 (Metsulfuronmethyl); 74738-17-3 (Fenpiclonil); 75736-33-3 (Diclobutrazol); 76578-14-8 (Quizalofopethyl); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 77501-90-7 (Fluoroglycofenethyl); 77732-09-3 (Oxadixyl); 78587-05-0 (Hexythiazox); 79277-27-3 (Thifensulfuronmethyl); 79983-71-4 (Hexaconazole); 80844-07-1 (Etofenprox); 81406-37-3 (Fluroxypyr 1-methylheptyl ester); 81777-89-1 (Clomazone); 82097-50-5 (Triasulfuron); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 83657-22-1 (Uniconazole); 83657-24-3 (Diniconazole); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 86209-51-0 (Primisulfuronmethyl); 86763-47-5 (Propisochlor); 87130-20-9 (Diethofencarb); 87237-48-7 (Haloxyfop ethoxyethyl ester); 87546-18-7 (Flumiclorac pentyl); 87674-68-8 (Dimethenamid); 88671-89-0 (Myclobutanil); 92067-00-0; 94125-34-5 (Prosulfuron); 94361-06-5 (Cyproconazole); 96489-71-3 (Pyridaben); 98886-44-3 (Fosthiazate); 99607-70-2 (Cloquintocetmexyl); 101205-02-1 (Cycloxydim); 103361-09-7 (Flumioxazin); 104040-78-0 (Flazasulfuron); 105512-06-9 (Clodinafoppropargyl); 107534-96-3 (Tebuconazole); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 114369-43-6 (Fenbuconazole); 116255-48-2 (Bromuconazole); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenconazole); 120923-37-7 (Amidosulfuron); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 122931-48-0 (Rimsulfuron); 126535-15-7 (Triflusulfuronmethyl); 126833-17-8 (Fenhexamid); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 136426-54-5 (Fluquinconazole); 138261-41-3 (Imidacloprid); 140923-17-7 (Iprovalicarb); 141112-29-0 (Isoxaflutole); 143390-89-0 (Kresoximmethyl); 144550-06-1 (Iodosulfuronmethyl); 173584-44-6 (Indoxacarb) Role: ANT (Analyte), ANST (Analytical study) (detn. of pesticides in animal tissues by gel permeation chromatog. cleanup/gas chromatog.-mass spectrometry and liq. chromatog.-tandem mass spectrometry)

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Citations: 29) Bordet, F; Analusis 1996, 24, 328
Citations: 30) Rimkus, G; J Chromatogr A 1996, 737, 9 A new method using gel permeation chromatog. (GPC) cleanup followed by gas chromatog.-mass spectrometry (GC-MS) and liq. chromatog.-tandem mass spectrometry (LC-MS-MS) has been established for quant. detn. of 437 pesticide residues in animal tissues such as beef, mutton, pork, chicken, and rabbit. Based on an appraisal of the characteristics of both GC-MS and LC-MS-MS, validation expts. were conducted for 660 pesticides. In the method, 10 g animal samples were mixed with 20 g sodium sulfate and extd. with 35 mL of cyclohexane + Et acetate (1 + 1) twice by blender homogenization, centrifugation, and filtration. Evapn. was conducted and an equiv. of 5 g sample was injected into a 400 mm * 25 mm S-X3 GPC column, with cyclohexane + Et acetate (1 + 1) as the mobile phase at a flow rate of 5 mL/min. The 22-40 min fraction was collected for subsequent anal. For the 368 pesticides detd. by GC-MS, the portions collected from GPC were concd. to 0.5 mL and exchanged with 5 mL hexane twice. For the 69 pesticides by LC-MS-MS, the portions collected from GPC were dissolved with acetonitrile + water (60 + 40) after taking the ext. to dryness with nitrogen gas. In the linear range of each pesticide, the correlation coeff. was r >= 0.98, exceptions being dinobuton, linuron, and fenamiphos sulfoxide. At the low, medium and high three fortification levels of 0.2-4800 mg/kg, recoveries fell within 40-120%, among which 417 pesticides recoveries between 60% and 120%, accounting for 95%, 20 analytes between 40% and 60%, accounting for 5%. The relative std. deviation was below 28% for all 437 pesticides. The limits of detection for the method were 0.2-600 mg/kg, depending on each pesticide. [on SciFinder (R)] 0021-9673 pesticide/ detn/ meat/ gel/ permeation/ GC/ MS/ HPLC

974. Pang, Guo-Fang, Fan, Chun-Lin, Liu, Yong-Ming, Cao, Yan-Zhong, Zhang, Jin-Jie, Li, Xue-Min, Li, Zeng-Yin, Wu, Yan-Ping, and Guo, Tong-Tong (2006). Determination of residues of 446 pesticides in fruits and vegetables by three-cartridge solid-phase extraction-gas chromatography-mass spectrometry and liquid chromatography-tandem mass spectrometry. *Journal of AOAC International* 89: 740-771.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2006:560057

Chemical Abstracts Number: CAN 145:247720
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (carbamate; pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS); Mass spectrometry (gas chromatog. combined with; pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS); Mass spectrometry (liq. chromatog. combined with; pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS); Gas chromatography; Liquid chromatography (mass spectrometry combined with; pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS); Pesticides (organochlorine; pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS); Pesticides (organophosphorus; pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS); Apium graveolens; Brassica oleracea capitata; Citrus sinensis; Food analysis; Food contamination; Fruit; Lycopersicon esculentum; Malus pumila; Orange; Tandem mass spectrometry; Vegetable; Vitis vinifera (pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS); Pyrethrins Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pyrethroids; pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS); Extraction (solid-phase; pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS)
CAS Registry Numbers: 50-29-3; 51-03-6 (Piperonyl butoxide); 53-19-0; 53-60-1 (Propazine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8 (DEF); 80-06-8 (Chlorfenethol); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 81-14-1 (Musk ketone); 81-15-2 (Musk xylene); 82-68-8 (Quintozene); 83-66-9 (Musk ambrette); 84-65-1 (Anthraquinone); 85-68-7 (Phthalic acid benzyl butyl ester); 86-50-0 (Azinphos-methyl); 90-43-7 (2-Phenylphenol); 90-98-2 (4,4'-Dichlorobenzophenone); 92-52-4 (Biphenyl); 93-71-0 (Allidochlor); 95-06-7 (Sulfallate); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 103-17-3 (Chlorbenside); 107-92-6 (Butanoic acid); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-32-2 (Dicofol); 115-86-6 (Triphenyl phosphate); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 116-66-5 (Musk moskene); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 126-71-6 (Tri-iso-butyl phosphate); 126-73-8 (Tri-n-butyl phosphate); 136-25-4 (Erbon); 140-57-8 (Aramite); 145-39-1 (Musk tibetene); 297-78-9 (Isobenzan); 297-97-2 (Thionazin); 298-00-0 (Methyl-parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 299-86-5 (Crufomate); 301-12-2; 309-00-2 (Aldrin); 311-45-5 (Paraoxon-ethyl); 315-18-4 (Mexacarbate); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 327-98-0 (Trichloronat); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 370-14-9 (Isodrin); 470-90-6 (Chlorfenvinphos); 500-28-7 (Chlorthion); 510-15-6 (Chlorobenzilate); 527-20-8 (Pentachloroaniline); 535-89-7 (Crimidine); 563-12-2 (Ethion); 584-79-2 (Bioallethrin); 608-93-5 (Pentachlorobenzene); 626-43-7 (3,5-Dichloroaniline); 634-83-3 (2,3,4,5-Tetrachloroaniline); 640-15-3 (Thiometon); 672-99-1 (BDMC); 673-04-1 (Simeton); 709-98-8 (Propanil); 731-27-1 (Tolylfluanide); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbofenothion); 789-02-6; 834-12-8 (Ametryn); 841-06-5 (Methoprotryne); 886-50-0 (Terbutryn); 919-86-8 (Demeton-s-methyl); 938-86-3 (2,3,4,5-Tetrachloroanisole); 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-35-6 (Paraoxon-methyl); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (Endosulfan-1); 973-21-7 (Dinobuton); 1007-28-9 (Desisopropyl-atrazine); 1014-69-3 (Desmetryn); 1014-70-6 (Simetryn); 1031-07-8 (Endosulfan-sulfate); 1031-47-6 (Triamiphos); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1469-48-3; 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-17-9 (Atratone); 1610-18-0 (Prometon); 1746-81-2 (Monolinuron); 1825-21-4 (Pentachloroanisole); 1836-75-5 (Nitrofen); 1861-32-1 (Dacthal); 1861-40-1 (Benfluralin); 1912-24-9 (Atrazine); 1912-

26-1 (Trietazine); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 2008-58-4 (2,6-Dichlorobenzamide); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromofos); 2163-69-1 (Cycluron); 2164-08-1 (Lenacil); 2212-67-1 (Molinate); 2227-13-6 (Tetrasul); 2275-23-2 (Vamidothion); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2463-84-5 (Dicapthon); 2464-37-1 (Chlorflurenol); 2497-06-5 (Disulfoton sulfone); 2497-07-6 (Disulfoton-sulfoxide); 2540-82-1 (Formothion); 2588-04-7 (Phorate sulfone); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2675-77-6 (Chloroneb); 2686-99-9 (3,4,5-Trimethacarb); 2921-88-2 (Chlorpyrifosethyl); 3060-89-7 (Metobromuron); 3244-90-4 (Aspon); 3424-82-6; 3481-20-7 (2,3,5,6-Tetrachloroaniline); 3689-24-5 (Sulfotep); 3761-41-9 (Fenthion sulfoxide); 3761-42-0 (Fenthion sulfone); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 3878-19-1 (Fuberidazole); 3983-45-7 (Fenchlorphos oxon); 3988-03-2 (4,4'-Dibromobenzophenone); 4147-51-7 (Dipropetryn); 4658-28-0 (Aziprotryne); 4726-14-1 (Nitralin); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5131-24-8 (Ditalimfos); 5221-49-8 (Pyrimitate); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 6108-10-7 (e-HCH); 6164-98-3 (Chlordimeform); 6190-65-4 (Atrazine-desethyl); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7012-37-5 (PCB 28); 7082-99-7 (Chlorbenside sulfone); 7286-69-3 (Sebuthylazine); 7287-19-6 (Prometryne); 7287-36-7 (Monalide); 7292-16-2 (Propaphos); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 10453-86-8 (Resmethrin); 10552-74-6 (Nitrothal-isopropyl); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14437-17-3 (Chlorfenprop-methyl); 15299-99-7 (Napropamide); 15310-01-7 (Benodanil); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16606-02-3 (PCB 31); 16655-82-6 (3-Hydroxy carbofuran); 16752-77-5 (Methomyl); 17040-19-6 (Demeton-s-methyl sulfone); 17109-49-8 (Edifenphos); 17708-57-5 (cis-Diallate); 17708-58-6 (trans-Diallate); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 18691-97-9 (Methabenzthiazuron); 19480-43-4 (MCPA-butoxyethyl ester); 19666-30-9 (Oxadiazone); 19691-80-6 (Athidathion); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 21757-82-4 (Plifenate); 22212-55-1 (Benzoylprop-ethyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 22936-86-3 (Cyprazine); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos-ethyl); 23950-58-5 (Pronamide); 24017-47-8 (Triazophos); 24353-61-5 (Isocarbophos); 24579-73-5 (Propamocarb); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 26087-47-8 (Iprobenfos); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 27304-13-8 (Oxychlordane); 27314-13-2 (Norflurazon); 28249-77-6 (Thiobencarb); 29082-74-4 (Octachlorostyrene); 29091-05-2 (Dinitramine); 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 30979-48-7 (Isocarbamide); 31120-85-1 (Isofenphos oxon); 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 31508-00-6 (PCB 118); 31972-43-7 (Fenamiphos sulfoxide); 31972-44-8 (Fenamiphos sulfone); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan-2); 33245-39-5 (Fluchloralin); 33399-00-7 (Bromfenvinfos); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34123-59-6 (Isoproturon); 34205-21-5 (Dimefuron); 34643-46-4 (Prothiophos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 34681-24-8 (Butocarboxim-sulfoxide); 35065-27-1 (PCB 153); 35065-28-2 (PCB 138); 35065-29-3 (PCB 180); 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35693-99-3 (PCB 52); 37019-18-4; 37680-73-2 (PCB 101); 37764-25-3 (Dichlormid); 38260-54-7 (Etrimfos); 39184-27-5 (Thiofanox-sulfoxide); 39184-59-3 (Thiofanox-sulfone); 39515-41-8 (Fenpropathrin); 39765-80-5 (trans-Nonachlor); 40341-04-6 (Rabenzazole); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51235-04-2 (Hexazinone); 51338-27-3 (Dichlorfop-methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52756-22-6 (Flamprop-isopropyl); 52756-25-9 (Flamprop-methyl); 52888-80-9 (Prosulfocarb); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 53380-23-7 (Ethiofencarb-sulfone); 53490-78-1 (Desbromo-leptophos); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55290-64-7 (Dimethipin); 55814-41-0 (Mepronil); 56070-16-7 (Terbufos sulfone); 57018-04-9 (Tolclofos-methyl); 57052-04-7 (Isomethiozin); 57837-19-1 (Metalaxyl); 59399-24-5 (Etrimfos oxon); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 60238-56-4 (Chlorthiophos); 61213-25-0; 61432-55-1 (Dimepiperate); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 62850-32-2 (Fenothiocarb); 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 64249-01-0 (Anilofos); 65907-30-4 (Furathiocarb); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 67129-08-2 (Metazachlor); 67375-30-8 (Alpha-cypermethrin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 69806-40-2 (Haloxyfop-methyl); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 73250-68-7 (Mefenacet); 74051-80-2 (Sethoxydim); 74738-17-3 (Fenpiclonil); 75736-33-3 (Diclobutrazol); 76578-14-8 (Quizalofop-ethyl); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 77501-90-7 (Fluoroglycofen-ethyl); 77732-09-3 (Oxadixyl); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 79983-71-4 (Hexaconazole); 80844-07-1 (Etofenprox); 81406-37-3 (Fluroxypyr 1-methylheptyl ester); 81777-89-1 (Clomazone); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 83657-22-1 (Uniconazole); 83657-24-3 (Diniconazole); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 86209-51-0 (Primisulfuron-methyl); 86479-06-3 (Hexaflumuron); 86763-47-5 (Propisochlor); 87130-20-9 (Diethofencarb); 87546-18-7 (Flumiclorac-pentyl); 87674-68-8 (Dimethenamid); 88671-89-0 (Myclobutanil); 91465-08-6; 92067-00-0; 94361-06-5 (Cyproconazole); 96489-71-3 (Pyridaben); 98886-44-3 (Fosthiazate); 99607-70-2 (Cloquintocet-mexyl); 101007-06-1 (Acrinathrin); 101205-02-1 (Cycloxydim); 101463-69-8 (Flufenoxuron); 103361-09-7 (Flumioxazin); 105512-06-9 (Clodinafop-propargyl); 107534-96-3 (Tebuconazole); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 114369-43-6 (Fenbuconazole); 116255-48-2 (Bromuconazole); 118134-30-8 (Spiroxamine); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenconazole); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 136426-54-5 (Fluquinconazole); 138261-41-3 (Imidacloprid); 140923-17-7 (Iprovalicarb); 141112-29-0 (Isoxaflutole); 143390-89-0 (Kresoxim-methyl); 173584-44-6 (Indoxacarb) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS); 204719-92-6 (Supelclean ENVI-Carb) Role: ARU (Analytical role, unclassified), DEV (Device component use), ANST (Analytical study), USES (Uses) (pesticides in fruits and vegetable detd. by 3-cartridge solid-phase extn. and GC-MS and LC-MS-MS)

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Citations: 26) Pang, G; J AOAC Int 1994, 77, 738
Citations: 27) Pang, G; J AOAC Int 1994, 77, 1634
Citations: 28) Pang, G; J Chromatogr A 1994, 667, 348
Citations: 29) Pang, G; J AOAC Int 1995, 78, 1474
Citations: 30) Pang, G; J AOAC Int 1999, 82, 186 A method was developed for detn. of residues of 446 pesticides in fruits and vegetables through the use of cleanup by a 3-cartridge solid-phase extn.-gas chromatog./mass spectrometry (GC/MS) and liq. chromatog./tandem mass spectrometry (LC/MS/MS). Fruit and vegetable samples (20 g) were extd. with 40 mL acetonitrile, salted out, and centrifuged. Half of the supernatant was passed into an Envi-18 cartridge, eluted with acetonitrile, and cleaned up with Envi-Carb and aminopropyl Sep-Pak cartridges in series after concn. of the eluates. Pesticides were eluted with acetonitrile-toluene (3 + 1, vol./vol.), and eluates were concd. to 0.5 mL and then added into internal stds. after solvent exchange with 2 mL hexane and used for detn. of 383 pesticides by GC/MS. The other half of the supernatant was concd. to 1 mL and cleaned up with vegetable and aminopropyl Sep-Pak cartridges in series. Pesticides were eluted with acetonitrile-toluene (3 + 1, vol./vol.), and the eluates were concd. to 0.5 mL, dried with nitrogen gas, dild. to 1.0 mL with acetonitrile-water (3 + 2, vol./vol.), and used for detn. of 63 pesticides by LC/MS/MS. The limit of detection for the method was 0.2-600 ng/g depending on the individual pesticide. In the method, fortification recovery tests at high, medium, and low levels were conducted on 6 varieties of fruits and vegetables, i.e., apples, oranges, grapes, cabbage, tomatoes, and celery, with av. recoveries falling within the range of 55.0-133.8% for 446 pesticides, among which av. recoveries between 60.0-120.0% accounted for 99% of the results. The relative std. deviation was between 2.1-39.1%, of which a relative std. deviation of 2.1-25.0% made up 96% of the results. Expts. proved that the method was applicable for detn. of residues of 446 pesticides in fruit and vegetables. [on SciFinder (R)] 1060-3271 pesticide/ fruit/ vegetable/ extn/ GCMS/ LC/ MSMS

975. Pang, Guo-Fang, Liu, Yong-Ming, Fan, Chun-Lin, Zhang, Jin-Jie, Cao, Yan-Zhong, Li, Xue-Min, Li, Zeng-Yin, Wu, Yan-Ping, and Guo, Tong-Tong (2006). Simultaneous determination of 405 pesticide residues in grain by accelerated solvent extraction then gas chromatography-mass spectrometry or liquid chromatography-tandem mass spectrometry. *Analytical and Bioanalytical Chemistry* 384: 1366-1408.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2006:233728
Chemical Abstracts Number: CAN 144:466771
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; simultaneous detn. of 405 pesticide residues in grain by accelerated solvent extn. then gas chromatog.-mass spectrometry or liq. chromatog.-tandem mass spectrometry); Mass spectrometry (liq. chromatog. combined with; simultaneous detn. of 405 pesticide residues in grain by accelerated solvent extn. then gas chromatog.-mass spectrometry or liq. chromatog.-tandem mass spectrometry); Gas chromatography; Liquid chromatography (mass spectrometry combined with; simultaneous

detn. of 405 pesticide residues in grain by accelerated solvent extn. then gas chromatog.-mass spectrometry or liq. chromatog.-tandem mass spectrometry); Cereal; Food analysis; Food contamination; Pesticides; Solvent extraction (simultaneous detn. of 405 pesticide residues in grain by accelerated solvent extn. then gas chromatog.-mass spectrometry or liq. chromatog.-tandem mass spectrometry)

CAS Registry Numbers: 50-29-3 (4,4'-DDT); 51-03-6 (Piperonyl butoxide); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (4,4'-DDD); 72-55-9 (4,4'-DDE); 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-48-8 (DEF); 80-06-8 (Chlorfenethol); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 81-14-1 (Musk ketone); 81-15-2 (Musk xylene); 82-68-8 (Quintozene); 83-66-9 (Musk ambrette); 84-65-1 (Anthraquinone); 86-50-0 (Azinphos-methyl); 90-43-7 (2-Phenylphenol); 90-98-2 (4,4'-Dichlorobenzophenone); 92-52-4 (Biphenyl); 95-06-7 (Sulfallate); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 103-17-3 (Chlorbenside); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-32-2 (Dicofol); 115-86-6 (Triphenyl phosphate); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 116-66-5 (Musk moskene); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 126-71-6 (Tri-iso-butyl phosphate); 126-73-8 (Tri-N-butyl phosphate); 139-40-2 (Propazine); 140-57-8 (Aramite); 145-39-1 (Musk tibetene); 297-78-9 (Isobenzan); 297-97-2 (Thionazin); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 299-86-5 (Crufomate); 309-00-2 (Aldrin); 311-45-5 (Paraoxon ethyl); 315-18-4 (Mexacarbate); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 327-98-0 (Trichloronat); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 465-73-6 (Isodrin); 470-90-6 (Chlorfenvinphos); 500-28-7 (Chlorthion); 510-15-6 (Chlorobenzilate); 527-20-8 (Pentachloroaniline); 535-89-7 (Crimidine); 563-12-2 (Ethion); 584-79-2; 608-93-5 (Pentachlorobenzene); 626-43-7 (3,5-Dichloroaniline); 634-83-3 (2,3,4,5-Tetrachloroaniline); 640-15-3 (Thiometon); 672-99-1; 673-04-1 (Simetone); 709-98-8 (Propanil); 731-27-1 (Tolylfluanide); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbofenothion); 789-02-6 (2,4'-DDT); 841-06-5 (Methoprotryne); 886-50-0 (Terbutryn); 919-86-8; 938-86-3 (2,3,4,5=Tetrachloroanisole); 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-35-6 (Paraoxon-methyl); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (Endosulfan i); 973-21-7 (Dinobuton); 1007-28-9 (Desisopropyl-atrazine); 1014-69-3 (Desmetryn); 1031-07-8 (Endosulfan-sulfate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1194-65-6; 1469-48-3; 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-17-9 (Atratone); 1715-40-8 (Bromocyclen); 1746-81-2 (Monolinuron); 1825-21-4 (Pentachloroanisole); 1836-75-5 (Nitrofen); 1861-32-1 (Dacthal); 1861-40-1 (Benfluralin); 1912-24-9 (Atrazine); 1912-26-1 (Trietazine); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 2008-41-5 (Butylate); 2008-58-4 (2,6-Dichlorobenzamide); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromofos); 2163-69-1 (Cycluron); 2164-08-1 (Lenacil); 2212-67-1 (Molinate); 2227-13-6 (Tetrasul); 2275-23-2 (Vamidothion); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2463-84-5 (Dicapthon); 2464-37-1 (Chlorflurenol); 2497-06-5 (Disulfoton sulfone); 2497-07-6 (Disulfoton-sulfoxide); 2540-82-1 (Formothion); 2588-04-7 (Phorate sulfone); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2675-77-6 (Chloroneb); 2686-99-9 (3,4,5-Trimethacarb); 2921-88-2 (Chlorpyrifos-ethyl); 3060-89-7 (Metobromuron); 3244-90-4 (Aspon); 3424-82-6 (2,4'-DDE); 3481-20-7 (2,3,5,6-Tetrachloroaniline); 3689-24-5 (Sulfotep); 3761-41-9 (Fenthion sulfoxide); 3761-42-0 (Fenthion sulfone); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 3983-45-7 (Fenchlorphos oxon); 3988-03-2 (4,4'-Dibromobenzophenone); 4658-28-0 (Aziprotryne); 4726-14-1 (Nitralin); 4824-78-6; 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5221-49-8 (Pyrimitate); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0 (Chlorpyrifos methyl); 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 6108-10-7 (e-HCH); 6190-65-4 (Atrazine-desethyl); 6988-21-2 (Dioxacarb); 7012-37-5D (PCB 28); 7082-99-7 (Chlorbenside sulfone); 7286-69-3 (Sebuthylazine); 7287-19-6 (Prometryne); 7287-36-7 (Monalide); 7292-16-2 (Propaphos); 7696-12-0 (Tetramethrin); 7700-17-6

(Crotoxyphos); 7786-34-7 (Mevinphos); 10552-74-6 (Nitrothal-isopropyl); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14437-17-3 (Chlorfenprop-methyl); 15299-99-7 (Napropamide); 15310-01-7 (Benodanil); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16606-02-3D (PCB 31); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 17708-57-5 (cis-Diallate); 17708-58-6 (trans-Diallate); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 18691-97-9 (Methabenzthiazuron); 19480-43-4 (MCPA-butoxyethyl ester); 19666-30-9 (Oxadiazone); 19691-80-6 (Athidathion); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 21757-82-4 (Plifenate); 22212-55-1 (Benzoylprop-ethyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 22936-86-3 (Cyprazine); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 23560-59-0 (Heptenophos); 23950-58-5 (Pronamide); 24017-47-8 (Triazophos); 24353-61-5 (Isocarbophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 26087-47-8 (Iprobenfos); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 27304-13-8 (Oxy-chlordane); 27314-13-2 (Norflurazon); 28249-77-6 (Thiobencarb); 28434-00-6; 29082-74-4 (Octachlorostyrene); 29091-05-2 (Dinitramine); 29232-93-7 (Pirimiphos methyl); 29973-13-5 (Ethiofencarb); 30864-28-9 (Methacrifos); 30979-48-7 (Isocarbamide); 31120-85-1 (Isofenphos oxon); 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 31508-00-6D (Pcb 118); 31972-43-7 (Fenamiphos sulfoxide); 31972-44-8 (Fenamiphos sulfone); 32809-16-8 (Procymidone); 33171-05-0D; 33213-65-9 (Endosulfan ii); 33245-39-5 (Fluchloralin); 33399-00-7 (Bromfenvinfos); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34123-59-6 (Isoproturon); 34205-21-5 (Dimefuron); 34643-46-4 (Prothiophos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35065-27-1D (Pcb 153); 35065-28-2D (Pcb 138); 35065-29-3D (PCB 180); 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos); 35693-99-3D (PCB 52); 37019-18-4 (Deethyl-sebuthylazine); 37680-73-2D (PCB 101); 37764-25-3 (Dichlormid); 38260-54-7 (Etrimfos); 39184-59-3 (Thiofanoxsulfone); 39515-41-8 (Fenpropathrin); 39765-80-5 (trans-Nonachlor); 40341-04-6 (Rabenzazole); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51235-04-2 (Hexazinone); 51338-27-3 (Diclofop methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52756-22-6 (Flamprop-isopropyl); 52756-25-9 (Flamprop-methyl); 52888-80-9 (Prosulfocarb); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 53380-23-7 (Ethiofencarbsulfone); 53490-78-1 (Desbromo-leptophos); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55814-41-0 (Mepronil); 56070-16-7 (Terbufos sulfone); 57018-04-9 (Tolclofos-methyl); 57052-04-7 (Isomethiozin); 57837-19-1 (Metalaxyl); 59399-24-5 (Etrimfos oxon); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 60238-56-4 (Chlorthiophos); 61213-25-0; 61432-55-1 (Dimepiperate); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 62850-32-2 (Fenothiocarb); 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 64249-01-0 (Anilofos); 65907-30-4 (Furathiocarb); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 67129-08-2 (Metazachlor); 67375-30-8; 67564-91-4 (Fenpropimorph); 68359-37-5 (Cyfluthrin); 69409-94-5 (Fluvalinate); 69806-40-2 (Haloxyfopmethyl); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 73250-68-7 (Mefenacet); 74051-80-2 (Sethoxydim); 74738-17-3 (Fenpiclonil); 75736-33-3 (Diclobutrazol); 76578-14-8 (Quizalofopethyl); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 77501-90-7 (Fluoroglycofen-ethyl); 77732-09-3 (Oxadixyl); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 79983-71-4 (Hexaconazole); 80844-07-1 (Etofenprox); 81406-37-3 (Fluroxypyr-1-methylheptyl ester); 81777-89-1 (Clomazone); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 83657-22-1 (Uniconazole); 83657-24-3 (Diniconazole); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 86479-06-3 (Hexaflumuron); 86763-47-5 (Propisochlor); 87130-20-9 (Diethofencarb); 87237-48-7 (Haloxyfop-ethoxyethyl); 87546-18-7 (Flumiclorac-pentyl); 87674-68-8 (Dimethenamid); 88671-89-0 (Myclobutanil); 91465-08-6 (l-Cyhalothrin); 94361-06-5 (Cyproconazole); 96489-71-3 (Pyridaben); 101007-06-1 (Acrinathrin); 101205-02-1 (Cycloxydim); 101463-69-8 (Flufenoxuron); 103361-09-7 (Flumioxazin); 105512-

06-9 (Clodinafop-propargyl); 107534-96-3 (Tebuconazole); 111988-49-9 (Thiacloprid); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 114369-43-6 (Fenbuconazole); 116255-48-2 (Bromuconazole); 116255-48-2D (Bromuconazole); 118134-30-8 (Spiroxamine); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenconazole); 121552-61-2 (Cyprodinil); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 136426-54-5 (Fluquinconazole); 140923-17-7 (Iprovalicarb); 143390-89-0 (Kresoxim-methyl); 173584-44-6 (Indoxacarb) Role: ANT (Analyte), ANST (Analytical study) (simultaneous detn. of 405 pesticide residues in grain by accelerated solvent extn. then gas chromatog.-mass spectrometry or liq. chromatog.-tandem mass spectrometry); 93-71-0 (Allidochlor) Role: ANT (Analyte), ANST (Analytical study) (simultaneous detn. of 405 pesticide residues in grain by accelerated solvent extn. then gas chromatog.-mass spectrometry or liq. chromatog.-tandem mass spectrompaetry)

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Citations: 43) Anon; L00.00-34 Analysis of Foodstuff's, Modular Multiple Analytical Method for

the Determination of Pesticide Residues in Foodstuffs 1999
Citations: 44) USEPA; SW-846 Test Methods for Evaluating Solid Waste, Method 3545
Citations: 45) Richter, B; Anal Chem 1996, 68, 1033
Citations: 46) Mastovska, K; J Chromatogr A 2004, 1040, 259 A new method has been established for simultaneous detn. of 405 pesticide residues in grain, using accelerated solvent extn. (ASE), solid-phase extn. (SPE), and GC-MS and LC-MS-MS. The method was based on appraisal of the GC-MS and LC-MS-MS characteristics of 660 pesticides, their efficiency of extn. from grain, and their purifn. Samples of grain (10 g) were mixed with Celite 545 (10 g) and the mixt. was placed in a 34-mL cell of an accelerated solvent extractor and extd. with acetonitrile in the static state for 3 min with two cycles at 1,500 psig and at 80 DegC. For the 362 pesticides detd. by GC-MS, half of the exts. were cleaned with an Envi-18 cartridge and then further cleaned with Envi-Carb and Sep-Pak NH2 cartridges in series. The pesticides were eluted with acetonitrile-toluene, 3:1, and the eluates were concd. and used for anal. after being exchanged with hexane twice. For the 43 pesticides detd. by LC-MS-MS the other half of the exts. were cleaned with Sep-Pak Alumina N cartridge and further cleaned with Envi-Carb and Sep-Pak NH2 cartridges. Pesticides were eluted with acetonitrile-toluene, 3:1. After evapn. to dryness the eluates were dild. with acetonitrile-water, 3:2, and used for anal. In the linear range of each pesticide the linear correlation coeff. r was equal to or greater than 0.956 and 94% of linear correlation coeffs. were greater than 0.990. At low, medium, and high fortification levels, at the limit of detection (LOD), twice the LOD and ten times LOD, resp., recoveries ranged from 42 to 132%; for 382 pesticides, or 94.32%, recovery was from 60 to 120%. The relative std. deviation (RSD) was always below 38% and was below 30% for 391 pesticides, or 96.54%. The LOD was 0.0005-0.3000 mg kg-1. The proposed method is suitable for detn. of 405 pesticide residues in grain such as maize, wheat, oat, rice, and barley, etc. [on SciFinder (R)] 1618-2642 pesticide/ residue/ contamination/ grain/ GC/ LC/ mass/ spectrometry

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Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 1990:17764
Chemical Abstracts Number: CAN 112:17764
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: EPXXDW
Index Terms: Pyrethrins and Pyrethroids Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study) (mixts., with phosphate esters, as synergistic pesticidal compns.); Acaricides; Pesticides (synergistic, cypermethrin- and phosphate ester-based compns.)
CAS Registry Numbers: 51-03-6D; 52-68-6D (Trichlorfon); 55-38-9D (Fenthion); 56-38-2D (Parathion); 56-72-4D (Coumaphos); 62-73-7D (Dichlorvos); 121-75-5D (Malathion); 122-14-5D (Fenitrothion); 298-00-0D (Methylparathion); 333-41-5D (Diazinon); 732-11-6D; 950-10-7D; 950-37-8D (Methidathion); 2104-96-3D (Bromophos); 2310-17-0D (Phosalone); 2540-82-1D; 2597-03-7D (Phenthoate); 2636-26-2D (Cyanophos); 7664-38-2D (Phosphoric acid); 7786-34-7D (Mevinphos); 8065-48-3D; 13171-21-6D (Phosphamidon); 13194-48-4D; 13593-03-8D (Quinalphos); 13598-51-1D (Thiophosphoric acid); 15834-33-0D (Dithiophosphoric acid); 22248-79-9D (Tetrachlorvinphos); 23505-41-1D; 23560-59-0D (Heptenophos); 24017-47-8D (Triazophos); 31218-83-4D (Propetamphos); 35400-43-2D (Sulprofos); 65731-84-2D; 65732-07-2; 72204-44-5D; 81577-92-6; 83860-32-6D; 95148-95-1; 119674-40-7; 124405-42-1; 124405-43-2; 124405-44-3; 124405-45-4; 124405-46-5; 124405-47-6 Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study) (synergistic pesticides contg.)
Reg.Pat.Tr.Des.States: Designated States R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE.

Patent Application Country: Application: EP
Priority Application Country: HU
Priority Application Number: 87-5114
Priority Application Date: 19871118 A pesticidal compn. against arthropods comprises pyrethroids, phosphate esters, and optionally piperonyl butoxide and excipients. The pyrethroid is cypermethrin, at 0.1-40% by wt. of the total compn., and comprises 40-100% 1(R),cis(S) and/or 1(R),trans(S) out of the 8 isomers. The 2nd component is phosphoric acid, thiophosphoric acid, or dithiophosphate, at a ratio of 1:(1-99) to cypermethrin. A topical test of Musca domestica was carried out with 100 ng 1(S),trans(R)-cypermethrin and 1000 ng quinalphos in BuOH, which showed a synergistic effect. A compn. was formulated with a 40:60 mixt. of 1(R),cis(S) + 1(S),cis(R)- and 1(R),trans(S) + 1(S),trans(R)-cypermethrin 10, Ca alkylarylsulfonate 35, alkylarylphenol polyglycol ether 80, and quinalphos 400 g in xylene. The emulsion was stable after 24 h in water at a concn. of 0.2 or 5% by wt. [on SciFinder (R)] A01N057-12. A01N057-14; A01N057-16. A01N057-12; A01N053-00; A01N057-14; A01N053-00; A01N057-16; A01N053-00. pesticide/ synergism/ cypermethrin/ phosphate/ ester

977. Papadopoulou-Mourkidou, Euphemia, Patsias, John, and Koukourikou, Anna (2006). Automated trace analysis of pesticides in water. *Methods in Biotechnology* 19: 435-451.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2005:1181553
Chemical Abstracts Number: CAN 144:337343
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (pesticide detn. in water by automated HPLC tandem photodiode array/post-column derivatization/fluorescence detection following solid-phase extn.)
CAS Registry Numbers: 643-79-8 (o-Phthalaldehyde); 1310-73-2 (Sodium hydroxide); 13242-44-9 Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (derivatization agent; pesticide detn. in water by automated HPLC tandem photodiode array/post-column derivatization/fluorescence detection following solid-phase extn.); 10043-35-3 (Boric acid) Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (derivatization buffer; pesticide detn. in water by automated HPLC tandem photodiode array/post-column derivatization/fluorescence detection following solid-phase extn.); 7778-77-0 (Potassium phosphate (KH2PO4) Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (mobile phase solvent of phosphoric acid and; pesticide detn. in water by automated HPLC tandem photodiode array/post-column derivatization/fluorescence detection following solid-phase extn.); 7664-38-2 (Phosphoric acid) Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (mobile phase solvent of potassium phosphate and; pesticide detn. in water by automated HPLC tandem photodiode array/post-column derivatization/fluorescence detection following solid-phase extn.); 75-05-8 (Acetonitrile) Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (mobile phase solvent of water and; pesticide detn. in water by automated HPLC tandem photodiode array/post-column derivatization/fluorescence detection following solid-phase extn.); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (pesticide detn. in water by automated HPLC tandem photodiode array/post-column derivatization/fluorescence detection following solid-phase extn.); 50-29-3; 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-55-9; 86-50-0 (Azinphosmethyl); 93-76-5 (2,4,5-T); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-82-6 (2,4-DB); 95-95-4 (2,4,5-Trichlorophenol); 99-30-9 (Dicloran); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 120-36-5 (Dichlorprop); 120-83-2 (2,4-Dichlorophenol); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 132-66-1 (Naptalam); 139-40-2 (Propazine); 298-00-0

(Parathion methyl); 298-01-1; 311-45-5 (Paraoxon ethyl); 314-40-9 (Bromacil); 330-54-1 (Diuron); 330-55-2 (Linuron); 338-45-4; 510-15-6 (Chlorobenzilate); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6; 789-02-6; 834-12-8 (Ametryne); 950-35-6 (Paraoxon methyl); 1007-28-9 (Desisopropylatrazine); 1014-70-6 (Simetryne); 1085-98-9 (Dichlofluanid); 1129-41-5 (Metolcarb); 1134-23-2 (Cycloate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1698-60-8 (Chloridazon); 1702-17-6 (Clopyralid); 1746-81-2 (Monolinuron); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 1918-16-7 (Propachlor); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2163-68-0 (Hydroxyatrazine); 2164-17-2; 2212-67-1 (Molinate); 2599-11-3 (Hydroxysimazine); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2642-71-9 (Azinphos ethyl); 3060-89-7 (Metobromuron); 3383-96-8 (Temephos); 3424-82-6; 3766-81-2 (Fenobucarb); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0; 5836-10-2 (Chloropropylate); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6190-65-4 (Desethylatrazine); 6988-21-2 (Dioxacarb); 7287-19-6 (Prometryne); 10311-84-9 (Dialifos); 10605-21-7 (Carbendazim); 13457-18-6 (Pyrazophos); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 15299-99-7 (Napropamide); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 16655-82-6 (3-Hydroxycarbofuran); 16752-77-5 (Methomyl); 19666-30-9 (Oxadiazon); 19937-59-8 (Metoxuron); 21087-64-9 (Metribuzin); 22212-55-1 (Benzoylprop ethyl); 22224-92-6 (Fenamiphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphos ethyl); 23564-05-8 (Thiophanate methyl); 23564-06-9 (Thiophanate ethyl); 23950-58-5 (Propyzamide); 25057-89-0 (Bentazon); 26225-79-6 (Ethofumesate); 28249-77-6 (Thiobencarb); 29232-93-7 (Pirimiphos methyl); 29973-13-5 (Ethiofencarb); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34123-59-6 (Isoproturon); 34256-82-1 (Acetochlor); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35045-02-4 (Desaminometribuzin); 35367-38-5 (Diflubenzuron); 36734-19-7 (Iprodione); 39196-18-4 (Thiofanox); 40487-42-1 (Pendimethalin); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51338-27-3 (Diclofop methyl); 51630-58-1 (Fenvalerate); 52236-30-3 (Desaminodiketometribuzin); 52918-63-5 (Decamethrin); 55179-31-2 (Bitertanol); 55285-14-8 (Carbosulfan); 56507-37-0 (Diketometribuzin); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66246-88-6 (Penconazole); 67747-09-5 (Prochloraz); 69806-50-4 (Fluazifop butyl); 70124-77-5 (Flucythrinate); 72490-01-8 (Fenoxycarb); 81334-34-1 (Imazapyr); 81335-37-7 (Imazaquin); 82097-50-5 (Triasulfuron); 82657-04-3; 86479-06-3 (Hexaflumuron); 87820-88-0 (Tralkoxydim); 91465-08-6 (l-Cyhalothrin); 100728-84-5 (Imazamethabenz); 131068-72-9; 138261-41-3 (Imidacloprid); 171118-09-5 Role: ANT (Analyte), ANST (Analytical study) (pesticide detn. in water by automated HPLC tandem photodiode array/post-column derivatization/fluorescence detection following solid-phase extn.)

Citations: 3) Slobodnik, J; J Chromatogr 1993, 642, 359
Citations: 4) Liska, I; Int J Environ Anal Chem 1992, 47, 267
Citations: 5) Pocurull, E; J Chromatogr A 1998, 818, 85
Citations: 6) Louter, A; J Chromatogr A 1996, 725, 67
Citations: 7) Liska, I; J Chromatogr A 1996, 733, 235
Citations: 8) Santos, T; J Chromatogr A 2000, 879, 3
Citations: 9) Hu, J; Water Res 1999, 33, 417
Citations: 10) Crescenzi, C; Environ Sci Technol 1997, 31, 479
Citations: 11) Hogenboom, A; Analyst 1997, 122, 1371
Citations: 12) Slobodnik, J; J Chromatogr A 1996, 741, 59
Citations: 13) Chiron, S; Anal Chem 1995, 67, 1637
Citations: 14) Slobodnik, J; J Chromatogr A 1995, 703, 81
Citations: 15) Patsias, J; J Chromatogr A 2000, 904, 171
Citations: 16) Subra, P; J Chromatogr 1988, 456, 121
Citations: 17) Papadopoulou-Mourkidou, E; J Chromatogr A 1996, 726, 99

An automated system appropriate to det. a variety of chem. classes of pesticides and conversion products in water is discussed. This system is based on the online solid-phase extn. (SPE) of target solutes followed by HPLC/tandem photodiode array/post-column derivatization/fluorescence detection

(PDA/PCD/FLD). SPE is performed using a Hysphere-GP (10 * 2 mm) reversed-phase cartridge with the automated PROSPEKT system. Aliquots of 100 mL acidified (pH 3.0) samples are processed. Online HPLC anal. is done using a C18 anal. column eluted with a binary gradient of 10 mM phosphate buffer and an acetonitrile/water (90:10 vol./vol.) mixt. Solutes are tentatively identified by tandem PDA/PCD/FLD. The PDA detector is used as a general purpose detector; the FLD is useful to confirm N-methyl-carbamate and N-methyl-carbamoyloxime pesticides, which are post-column derivatized with o-phthalaldehyde and N,N-dimethyl-2-mercaptoethylamine hydrochloride following hot alk. hydrolysis. The entire anal. system is controlled and monitored with a single computer operated by chromatog. software. Solute recovery from water samples was >80% except for some highly polar and highly hydrophobic compds.; for these compds., resp. recovery was 10-80%. PDA detector-based detection limits were 0.02-0.1 mg/L for the majority of target analytes; detection limits for the PCD/ELD system were 0.005-0.02 mg/L for all amenable analytes. [on SciFinder (R)] pesticide/ detn/ water/ automated/ trace/ analysis;/ HPLC/ tandem/ photodiode/ array/ post/ column/ derivatization/ fluorescence/ detection;/ solid/ phase/ extn/ pesticide/ detn/ water

978. Park, Hae-Jun, Lee, In-Kuk, Shin, Hyun-Suk, Rho, Mi-Young, and Kim, Nam-Kyu (20020627). Preparation of sustained-release agricultural chemicals. 39 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Database: CAPLUS
Accession Number: AN 2002:487306
Chemical Abstracts Number: CAN 137:42990
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Charcoal Role: MOA (Modifier or additive use), USES (Uses) (activated; porous carrier in sustained-release agrochem. compns.); Mastics (coating in sustained-release agrochem. compns.); Pesticides (controlled-release; prepn. of); Polysaccharides Role: MOA (Modifier or additive use), USES (Uses) (microorganism-derived; coating in sustained-release agrochem. compns.); Ceramics (porous carrier in sustained-release agrochem. compns.); Diatomite; Zeolite-group minerals Role: MOA (Modifier or additive use), USES (Uses) (porous carrier in sustained-release agrochem. compns.); Agrochemical formulations (sustained-release; prepn. of)
CAS Registry Numbers: 9004-34-6 (Cellulose); 9013-95-0 (Levan); 9057-02-7 (Pullulan); 11138-66-2 (Xanthan gum); 54724-00-4 (Curdlan); 74749-76-1 (Zooglan); 185915-34-8 (Pestan) Role: MOA (Modifier or additive use), USES (Uses) (coating in sustained-release agrochem. compns.); 1318-00-9 (Vermiculite); 12427-27-9 (Pearlite) Role: MOA (Modifier or additive use), USES (Uses) (porous carrier in sustained-release agrochem. compns.); 52-68-6 (DEP); 55-38-9 (MPP); 60-51-5 (Dimethoate); 63-25-2 (NAC); 69-53-4 (Ampicillin); 69-72-7 (Salicylic acid); 94-75-7 (2,4-D); 94-81-5 (MCPB); 99-30-9 (CNA); 114-26-1 (PHC); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (MEP); 122-34-9 (Simazine); 133-06-2 (Captan); 148-79-8 (Thiabendazole); 298-03-3; 333-41-5 (Diazinon); 541-48-0 (b-Aminobutyric acid); 732-11-6 (PMP); 834-12-8 (Ametryn); 1129-41-5 (MTMC); 1836-77-7 (CNP); 1912-24-9 (Atrazine); 2104-64-5 (EPN); 2212-67-1 (Molinate); 2274-67-1 (Dimethylvinphos); 2275-23-2 (Vamidothion); 2540-82-1 (Formothion); 2597-03-7 (PAP); 2631-40-5 (MIPC); 2655-14-3 (XMC); 2797-51-5 (ACN); 3766-81-2 (BPMC); 5598-13-0; 6894-38-8 (Jasmonic acid); 6923-22-4 (Monocrotophos); 6980-18-3 (Kasugamycin); 7292-16-2 (Propaphos); 10004-44-1 (Hydroxyisoxazole); 10380-28-6 (Oxine-copper); 10443-70-6 (MCPBethyl); 11113-80-7 (Polyoxin); 13356-08-6 (Fenbutatin oxide); 13598-36-2D (Phosphorous acid); 14698-29-4 (Oxolinic acid); 15263-53-3 (Cartap); 17606-31-4 (Bensultap); 18181-80-1 (Phenisobromolate); 18854-01-8 (Isoxathion); 19666-30-9 (Oxadiazon); 22248-79-9 (CVMP); 22936-75-0 (Dimethametryn); 23184-66-9 (Butachlor); 24151-93-7 (Piperophos); 25057-89-0 (Bentazon); 26087-47-8 (IBP); 27355-22-2 (Fthalide); 28249-77-6 (Benthiocarb); 29232-93-7 (Pyrimiphosmethyl); 30560-19-1 (Acephate); 31895-21-3 (Thiocyclam); 32861-85-1 (Chlomethoxynil); 36335-67-8 (Butamifos); 36734-19-7 (Iprodione); 41814-78-2 (Tricyclazole); 42576-02-3 (Bifenox); 42609-52-9 (Dymron); 50512-35-1

(Isoprothiolane); 50642-14-3 (Validamycin); 51218-49-6 (Pretilachlor); 52570-16-8 (Naproanilide); 55179-31-2 (Bitertanol); 55285-14-8 (Carbosulfan); 55814-41-0 (Mepronil); 57369-32-1 (Pyroquilon); 57520-17-9 (Iminoctadine Triacetate); 57837-19-1 (Metalaxyl); 58011-68-0 (>,Pyrazolate); 58798-67-7 (Blasticidin); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 61432-55-1 (Dimepiperate); 62865-36-5 (Diclomezine); 63935-38-6 (Cycloprothrin); 65907-30-4 (Furathiocarb); 66952-49-6 (Methasulfocarb); 68505-69-1 (Benfuresate); 69327-76-0 (Buprofezin); 70630-17-0 (Metalaxyl-M); 71561-11-0 (>,Pyrazoxyfen); 73250-68-7 (Mefenacet); 74115-24-5 (Clofentezine); 74712-19-9 (Bromobutide); 76280-91-6 (Tecloftalam); 76578-14-8 (Quizalofop-ethyl); 76608-88-3 (Triapenthenol); 76738-62-0 (Paclobutrazol); 79540-50-4 (Etobenzanid); 80844-07-1 (Ethofenprox); 82211-24-3 (Inabenfide); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 82692-44-2 (Benzofenap); 83055-99-6 (Bensulfuronmethyl); 83657-22-1 (Uniconazole); 84087-01-4 (Quinclorac); 85785-20-2 (Esprocarb); 87818-31-3 (Cinmethylin); 88678-67-5 (Pyributicarb); 89269-64-7 (Ferimzone); 93697-74-6 (Pyrazosulfuronethyl); 94593-91-6 (Cinosulfuron); 96489-71-3 (Pyridaben); 96491-05-3 (Thenylchlor); 97886-45-8 (Dithiopyr); 99485-76-4 (Cumyluron); 104030-54-8 (Carpropamid); 105024-66-6 (Silafluofen); 110956-75-7 (Pentoxazone); 112410-23-8 (Tebufenozide); 115852-48-7 (NNF-9425); 120068-37-3 (Fipronil); 120162-55-2 (Azimsulfuron); 122008-85-9 (Cyhalofop-butyl); 122548-33-8 (Imazosulfuron); 125306-83-4 (Cafenstrole); 130000-40-7 (Thifluzamide); 131860-33-8 (Azoxystrobin); 133408-50-1 (Metominostrobin); 135158-54-2 (Acibenzolar-S-methyl); 136849-15-5 (Cyclosulfamuron); 138261-41-3 (Imidacloprid); 147411-69-6 (Pyriminobacmethyl); 150824-47-8 (Nitenpyram) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (sustained-release compns. contg.)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: KR
Priority Application Number: 7867-
Priority Application Date: 20001219
Citations: Holl; US A5866151 1999
Citations: Akashi; US A5686385 1997
Citations: Singh; US A5929049 1999
Citations: Russo; Applied Microbiology and Biotechnology 1996, 44(6), 740 A process for prepg. sustained-release agricultural chems. contg. phosphorous acid salt comprises: (a) adding an effective component of agricultural chems. in a ratio of 1-100 g per 100 mL of solvent, dissolving and collecting a soln. contg. said effective component; (b) adding a porous carrier in a ratio of 0.5-2.0 kg per 100 mL of said soln. contg. said effective component of said agricultural pesticide, mixing homogeneously, drying to form an adsorption carrier contg. said effective component; and (c) adding a suspension contg. 0.5-15 g of polysaccharides obtained from microorganism per 1 kg of said adsorption carrier contg. said effective component of said agricultural chems. dried above. [on SciFinder (R)] A01N025-08. agrochem/ sustained/ release/ prepn;/ pesticide/ sustained/ release/ prepn

979. Park, J. H. and Matzner, E. (2001). Carbon Control on Nitrogen Dynamics in the Forest Floor of an N-Enriched Deciduous Forest Ecosystem. *Water, Air, and Soil Pollution, 130 (1-4) pp. II 643-648, 2001*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

ISSN: 0049-6979
Descriptors: C input manipulation
Descriptors: C control on N dynamics
Descriptors: C limitation

Descriptors: Dissolved inorganic N (DIN)
Descriptors: Forest floor
Descriptors: N saturation
Descriptors: Nitrate leaching
Abstract: Recent evidence from nitrogen (N) saturation studies indicates that forest floors in moderately impacted forests are the primary sink for atmospheric N inputs. Some researchers have suggested that the sink capacity of organic horizons is dependent on the amount of available carbon (C), which can be used for microbial N assimilation. To test the hypothesis that C limitation in forest floors exposed to chronic N deposition leads to an enhanced N leaching, a field C input manipulation experiment is under way in a deciduous forest. Since September 1999 aboveground C input has been doubled (by doubling litter input or by amending glucose) or excluded in replicated plots. Here we report the short-term response of concentrations of dissolved inorganic N (DIN: NO<inf>3</inf>⁻-N and NH<inf>4</inf>⁺-N) in forest floor percolate to the C input manipulation. In autumn following the C input manipulation, DIN concentrations in forest floor percolate decreased in all plots except the No Litter plots compared to the pre-treatment summer concentrations. In contrast, the concentrations of DIN in the No Litter plots remained high. A different seasonal pattern of DIN leaching among treatments, along with measurements of microbial biomass C and potential nitrification rates of forest floor samples, indicates that seasonal N dynamics in the forest floor are largely regulated by C availability changes associated with litterfall C input.
18 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.13.1.6 ENVIRONMENTAL BIOLOGY: Ecology: Interactions with environment
Subfile: Plant Science

980. Parker, L. V. and Jenkins, T. F. (1986). Removal of trace-level organics by slow-rate land treatment. *Water Research* 20: 1417-1426.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

A 2 yr study was performed on an outdoor, prototype, slow-rate system to determine the removal efficiency for 16 organic substances in wastewater. The 16 organics were chloroform, benzene, toluene, chlorobenzene, bromoform, m-dichlorobenzene, dibromochloromethane, pentane, hexane, nitrobenzene, m-nitrotoluene, diethylphthalate, PCB 1242, napthalene, phenanthrene and pentachlorophenol. The initial concentration of each of these substances in the wastewater was approx. 50 [mu]g l-1. Initial removal was via volatilization during spray application. The final concentration of substances after spraying correlated well with their calculated liquid-phase transfer coefficients and the substances' initial concentration losses were up to 70% for the most volatile components. Total percent removal for the system, based on the residual concentration in the percolate, was >98% for all substances. Only chloroform, which has a low octanol-water partition coefficient and according to the literature is not degraded aerobically, was continuously detected in the percolate. Breakthrough of several other organics in early spring was also observed, apparently as a result of application in late fall. The two substances that were most persistent in the soil were PCB and diethylphthalate (DEP). PCB was retained near the surface while DEP leached deeper in the soil profile as predicted by their respective octanol-water partition coefficients. slow-rate/ land treatment/ wastewater treatment/ trace organics/ toxic organics/ volatilization/ sorption/ biodegradation
http://www.sciencedirect.com/science/article/B6V73-48C7832-S7/2/d6f069274a8267b2584bdc4bcde13a28

981. Parker, L. V., Jenkins, T. F., and Foley, B. T. (Impact of Slow-Rate Land Treatment on Groundwater Quality, Toxic Organics. *Govt reports announcements & index (gra&i), issue 15,*

1985.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: The removal efficiency for 16 organic substances in wastewater was studied on an outdoor, prototype slow-infiltration system. The initial concentration of each of these substances in the wastewater was approximately 50 micrograms. Removal was via volatilization during spray application and subsequent adsorption in the soil. The percent removal during spraying could be estimated from the liquid-phase transfer coefficient; losses were up to 70% for the most volatile components. The total percent removal for the system, based on the concentration in the percolate, was more than 98% for all substances. Only chloroform, which has a low octanol-water coefficient and according to the literature is not degradable aerobically, was continuously detected in the percolate. The major final removal mechanisms are believed to be volatilization and biodegradation-biotransformation. Breakthrough of several other organics in early spring as a result of application during the colder months was also observed. The t
KEYWORDS: Ground water
KEYWORDS: Water quality
KEYWORDS: Waste water
KEYWORDS: Water pollution control

982. Parrish, Scott K (20050203). Agricultural spray adjuvants containing acids and surfactants for hard water conditions. 6 pp.
Chem Codes : Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:99112
Chemical Abstracts Number: CAN 142:171529
Section Code: 5-6
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 46
Coden: USXXCO
Index Terms: Agrochemical formulations; Pesticide formulations (adjuvants; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Surfactants (cationic; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Carboxylic acids Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (chloro; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Amines Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (coco alkyl, ethoxylated; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Fatty acids Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (esters, surfactants; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Amines Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (fatty, alkoxylated; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Acids Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (inorg.; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Surfactants (nonionic; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Acids Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (org.; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Acaricides; Fungicides; Herbicides; Insecticides (spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Auxins; Growth regulators; Polyoxyalkylenes; Polysiloxanes Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses)

(spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Carbohydrates Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (sugar esters, surfactants; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Alcohols Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (surfactants; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Amines Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (tallow alkyl, ethoxylated; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); Fats and Glyceridic oils Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (vegetable, surfactants; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions)
CAS Registry Numbers: 56-38-2 (Parathion); 60-51-5 (Dimethoate); 86-50-0 (Guthion); 93-65-2 (Mecoprop); 93-65-2D (Mecoprop); 93-76-5 (2,4,5-Trichlorophenoxyacetic acid); 93-76-5D (2,4,5-Trichlorophenoxyacetic acid); 94-75-7 (2,4-Dichlorophenoxyacetic acid); 94-75-7D (2,4-Dichlorophenoxyacetic acid); 94-82-6 (2,4-Dichlorophenoxybutyric acid); 94-82-6D (2,4-Dichlorophenoxybutyric acid); 111-46-6 (Diethylene glycol); 115-32-2 (Dicofol); 120-36-5 (Dichloroprop); 120-36-5D (Dichloroprop); 121-75-5 (Malathion); 133-06-2 (Captan); 133-90-4 (Chloramben); 133-90-4D (Chloramben); 732-11-6 (Phosmet); 1071-83-6 (Glyphosate); 1071-83-6D (Glyphosate); 1689-83-4 (Ioxynil); 1689-83-4D (Ioxynil); 1689-84-5 (Bromoxynil); 1689-84-5D (Bromoxynil); 1702-17-6 (Clopyralid); 1702-17-6D (Clopyralid); 1918-00-9 (Dicamba); 1918-00-9D (Dicamba); 1918-02-1 (Picloram); 1918-02-1D (Picloram); 2921-88-2 (Chloropyrifos); 7601-90-3 (Perchloric acid); 7647-01-0 (Hydrochloric acid); 7664-93-9 (Sulfuric acid); 7681-38-1 (Sodium bisulfate); 7697-37-2 (Nitric acid); 9016-45-9 (NP-10); 10034-85-2 (Hydroiodic acid); 10035-10-6 (Hydrobromic acid); 15165-67-0 (Dichlorprop-P); 15165-67-0D (Dichlorprop-P); 16484-77-8 (Mecoprop-P); 16484-77-8D (Mecoprop-P); 16672-87-0 (Ethephon); 16752-77-5 (Lannate); 23422-53-9 (Carzol); 27193-83-5 (Monochlorophenoxyacetic acid); 27193-83-5D (Monochlorophenoxyacetic acid); 34178-10-4; 34178-10-4D; 40843-25-2 (Diclofop); 40843-25-2D (Diclofop); 51276-47-2 (Glufosinate); 51276-47-2D (Glufosinate); 55335-06-3 (Triclopyr); 55335-06-3D (Triclopyr); 69335-91-7 (Fluazifop); 69335-91-7D (Fluazifop); 69377-81-7 (Fluoroxypyr); 69377-81-7D (Fluroxypyr); 69806-34-4 (Haloxyfop); 69806-34-4D (Haloxyfop); 72178-02-0 (Fomesafen); 72178-02-0D (Fomesafen); 74051-80-2 (Sethoxydim); 74051-80-2D (Sethoxydim); 77501-60-1 (Fluoroglycofen); 77501-60-1D (Fluoroglycofen); 81334-34-1 (Imazapyr); 81334-34-1D (Imazapyr); 81335-37-7 (Imazaquin); 81335-37-7D (Imazaquin); 81335-77-5 (Imazethapyr); 81335-77-5D (Imazethapyr); 84087-01-4 (Quinclorac); 84087-01-4D (Quinclorac); 84496-56-0 (Clomeprop); 84496-56-0D (Clomeprop); 90717-03-6 (Quinmerac); 90717-03-6D (Quinmerac); 95617-09-7 (Fenoxaprop); 95617-09-7D (Fenoxaprop); 99129-21-2 (Clethodim); 99129-21-2D (Clethodim); 100728-84-5 (Imazamethabenz); 100728-84-5D (Imazamethabenz); 127277-53-6 (Prohexadione calcium); 832691-31-3 (Tallow Am 3780); 832691-32-4 (AU 391) Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions); 106392-12-5 (Block polyoxyethylene-polyoxypropylene) Role: AGR (Agricultural use), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (surfactants; spray adjuvants contg. acids and surfactants for anionic pesticides and plant growth regulators under hard water conditions)
Patent Application Country: Application: US
Priority Application Country: US
Priority Application Number: 2003-473540
Priority Application Date: 20030528 Agricultural spray adjuvants for increasing the efficacy of anionic pesticides and plant growth regulators under hard water conditions are composed of (1) mineral or org. acids that can react or assoc. with divalent and trivalent cations and (2) cationic surfactants, including polyamine surfactants. [on SciFinder (R)] A01N057-18. agrochem/ spray/ adjuvant/ acid/ surfactant;/ pesticide/ adjuvant/ acid/ surfactant

983. Patel, K., Fussell, R. J., Goodall, D. M., and Keely, B. J (2004). Evaluation of large volume-difficult matrix

introduction-gas chromatography-time of flight-mass spectrometry (LV-DMI-GC-TOF-MS) for the determination of pesticides in fruit-based baby foods. *Food Additives & Contaminants* 21: 658-669.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2004:683834
Chemical Abstracts Number: CAN 141:379006
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Fruit (baby food contg.; evaluation of large vol.-difficult matrix introduction-gas chromatog.-time of flight-mass spectrometry for detn. of pesticides in fruit-based baby foods); Food analysis; Food contamination; Gas chromatography; Human; Pesticides; Time-of-flight mass spectrometry (evaluation of large vol.-difficult matrix introduction-gas chromatog.-time of flight-mass spectrometry for detn. of pesticides in fruit-based baby foods); Food (infant, contg. fruit; evaluation of large vol.-difficult matrix introduction-gas chromatog.-time of flight-mass spectrometry for detn. of pesticides in fruit-based baby foods)
CAS Registry Numbers: 50-29-3 (DDT); 56-38-2 (Parathion-ethyl); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-54-8 (DDD); 72-55-9 (DDE); 82-68-8 (Quintozene); 90-43-7 (2-Phenylphenol); 91-53-2 (Ethoxyquin); 92-52-4 (Biphenyl); 99-30-9 (Dicloran); 101-21-3 (Chloropropham); 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 527-20-8 (Pentachloroaniline); 563-12-2 (Ethion); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 789-02-6; 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1825-19-0 (Pentachlorothioanisole); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2032-65-7 (Methiocarb); 2310-17-0 (Phosalone); 2439-01-2 (Quinomethionate); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 7287-19-6 (Prometryn); 10552-74-6 (Nitrothal-isopropyl); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 15299-99-7 (Napropamide); 18181-80-1 (Bromopropylate); 19937-59-8 (Metoxuron); 21087-64-9 (Metribuzin); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 26225-79-6 (Ethofumesate); 29232-93-7 (Pirimiphos-methyl); 30864-28-9 (Methacrifos); 32809-16-8 (Procymidone); 34643-46-4 (Prothiofos); 35554-44-0 (Imazalil); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41483-43-6 (Bupirimate); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 53112-28-0 (Pyrimethanil); 57018-04-9 (Tolclofos-methyl); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 58810-48-3 (Ofurace); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 61213-25-0 (Flurochloridone); 66246-88-6 (Penconazole); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 76738-62-0 (Paclobutrazol); 77732-09-3 (Oxadixyl); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 88671-89-0 (Myclobutanil); 91465-08-6 (l-Cyhalothrin); 107534-96-3 (Tebuconazole); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (evaluation of large vol.-difficult matrix introduction-gas chromatog.-time of flight-mass spectrometry for detn. of pesticides in fruit-based baby foods)
Citations: Akiyama, Y; Journal of Food Hygiene Society of Japan 1998, 39, 303
Citations: Chuang, J; Analytica Chimica Acta 1999, 399, 135
Citations: Chuang, J; Analytica Chimica Acta 2001, 444, 87

Citations: Cressey, P; Food Additives and Contaminants 2003, 20, 57
Citations: Dalluge, J; Journal of Chromatography A 2002, 965, 207
Citations: De Koning, J; Journal of Chromatography A 2003, 1008, 247
Citations: EC; Official Journal 1999, L 124/8
Citations: EC; Official Journal 2003, L 41/33
Citations: Erney, D; Journal of Chromatography A 1993, 638, 57
Citations: Fernandez-Alba, A; Journal of Chromatography A 1994, 686, 263
Citations: Fillion, J; Journal of AOAC International 2000, 83, 698
Citations: Hill, A; Proceedings of the joint AOAC/FAO/IAEA/IUPAC International Workshop, 1999 2000
Citations: Jansson, C; Journal of Chromatography A 2004, 1023, 93
Citations: Moore, V; Food Chemistry 2000, 71, 443
Citations: NRC (National Research Council); Pesticides in the Diets of Infants and Children 1993
Citations: Patel, K; Analyst 2003, 128, 1228
Citations: Sandra, P; Journal of Chromatography A 2003, 1000, 299
Citations: Specht, W; Fresenius Z, Analytical Chemistry 1995, 353, 183
Citations: Van Deursen, M; Journal of Chromatography A 2000, 878, 205 The European Union Baby Food Directive (1999/39/EC), which came into force on 1 July 2002, set legal max. residue levels at 0.01 mg/kg for all pesticides in baby foods. The combination of large vol.-difficult matrix introduction (LV-DMI) with gas chromatog.-time of flight-mass spectrometry (GC-TOF-MS), described herein, provides the analyst with a simple but rapid alternative GC-MS technique for the multi-residue anal. of pesticides in fruit-based baby foods. Samples were extd. with Et acetate in the presence of Na2SO4 and NaHCO3 and the crude exts. were analyzed directly using LV-DMI-GC-TOF-MS. The best overall results (98 pesticides quantified satisfactorily at a spiking level of 0.01 mg/kg) were obtained by anal. of concd. exts. (2.5 g crop/mL) using a 30-m column, with a chromatog. run time of 25 min. A good signal-to-noise ratio was obtained at the lowest calibrated level (0.0125 mg/mL), with excellent linearity achieved over the range 0.0125-0.25 mg/mL (equiv. to 0.005-0.1 mg/kg). Av. recoveries for the anal. of 5 replicate detns. at a spiking level of 0.01 mg/kg were between 79 and 114% with relative std. derivations generally <20%. [on SciFinder (R)] 0265-203X pesticide/ detn/ fruit/ based/ baby/ food

984. Patel, Katan, Fussell, Richard J., Macarthur, Roy, Goodall, David M., and Keely, Brendan J (2004). Method validation of resistive heating-gas chromatography with flame photometric detection for the rapid screening of organophosphorus pesticides in fruit and vegetables. *Journal of Chromatography, A* 1046: 225-234.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:621185
Chemical Abstracts Number: CAN 141:294890
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Capsicum annuum annuum (grossum group; resistive heating-gas chromatog. with flame photometric detection for rapid screening of organophosphorus pesticides in fruit and vegetables); Pesticides (organophosphorus; resistive heating-gas chromatog. with flame photometric detection for rapid screening of organophosphorus pesticides in fruit and vegetables); Prunus persica; Vitis vinifera (resistive heating-gas chromatog. with flame photometric detection for rapid screening of organophosphorus pesticides in fruit and vegetables)
CAS Registry Numbers: 56-38-2 (Parathion-ethyl); 60-51-5 (Dimethoate); 62-73-7 (Dichlorovos); 86-50-0 (Azinphos-methyl); 119-12-0 (Pyridaphenthion); 121-75-5; 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 298-00-0 (Parathion-methyl); 333-41-5; 470-90-6; 563-12-2 (Ethion); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 2104-64-

5 (EPN); 2310-17-0 (Phosalone); 2921-88-2 (Chloropyrifos); 4824-78-6 (Bromophos-ethyl); 5598-13-0; 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 22248-79-9; 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 34643-46-4 (Prothiofos); 38260-54-7 (Etrimfos); 57018-04-9 (Tolclofos-methyl); 95465-99-9 (Cadusafos) Role: AGR (Agricultural use), ANT (Analyte), POL (Pollutant), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence), USES (Uses) (resistive heating-gas chromatog. with flame photometric detection for rapid screening of organophosphorus pesticides in fruit and vegetables)
Citations: 5) Munoz, J; Talanta 2003, 60, 433
Citations: 6) de Nino, A; J AOAC Int 2003, 86, 1003
Citations: 7) van Deursen, M; J High Resolut Chromatogr 1999, 22, 509
Citations: 8) Dalluge, J; J High Resolut Chromatogr 1999, 22, 459
Citations: 9) Mastovska, K; J Chromatogr A 2001, 907, 235
Citations: 10) Vidal, J; Chromatographia 2002, 56, 475
Citations: 11) Dalluge, J; J Sep Sci 2002, 25, 608
Citations: 12) Vreuls, J; J Microcol Sep 1999, 56, 663
Citations: 13) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 14) Mol, H; J Chromatogr A 2003, 1015, 119
Citations: 15) European Commission Directorate Of General Health And Consumer Protection; SANCO/825/00 rev 6 2000
Citations: 16) Anon; Eurachem/CITAC, second ed, www.measurementuncertainty.org 2000
Citations: 17) Thompson, M; Pure Appl Chem 2002, 74, 835
Citations: 18) International Organisation For Standardisation; Guide to the Expression of Uncertainty in Measurement, second ed 1995
Citations: 19) Ambrus, A; Ital J Food Sci 2000, 12, 259
Citations: 20) Thompson, M; Analyst 2000, 125, 385
Citations: 21) Erney, D; J Chromatogr A 1994, 638, 57 A rapid method for the screening of organophosphorus (OP) pesticides in fruit and vegetables is reported. Sample exts. were analyzed using resistive heating-gas chromatog. (RH-GC) with flame photometric detection (FPD). A CarboFrit insert in the GC liner allowed injection of crude exts. onto the GC system. Sepn. of up to 20 pesticides was achieved in 4.3 min with excellent retention time stability. Signal-to-noise ratios of 5:1 or better were obtained for the majority of the pesticides at the lowest calibrated level (LCL), 0.01 mg ml-1, with excellent linearity over the range 0.01-0.5 mg ml-1 (0.004-0.2 mg kg-1 equiv.). Av. recoveries between 70 and 116% were obtained for pesticides spiked at 0.01 and 0.1 mg kg-1 with assocd. R.S.D. values ?20% in the majority of cases. Ests. of relative reproducibility std. deviation (R.S.D.R), made by combining obsd. R.S.D. values with ests. of uncertainty assocd. with mean recovery allowed the detn. of HORRAT values which confirmed that the method is capable of producing results which are fit for purpose. The validated method was then used to screen peaches, grapes and sweet peppers for a total of 37 pesticides. Incurred residue results obtained using RH-GC-FPD were in good agreement with the results from anal. of the same samples using MS confirmation. [on SciFinder (R)] 0021-9673 peach/ sweet/ pepper/ grape/ organophosphorus/ pesticide/ GC

985. Patil, G. S (1994). Prediction of aqueous solubility and octanol-water partition coefficient for pesticides based on their molecular structure. *Journal of Hazardous Materials* 36: 35-43.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:156493
Chemical Abstracts Number: CAN 120:156493
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.

Index Terms: Molecular structure-property relationship (octanol-water partition coeff., of pesticides); Partition (octanol-water, of pesticides, prediction of, mol. structure in relation to); Solubility (of pesticides, prediction of, mol. structure in relation to)
CAS Registry Numbers: 7732-18-5 Role: ANST (Analytical study) (partition, octanol-water, of pesticides, prediction of, mol. structure in relation to); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 311-45-5 (Paraoxon); 327-98-0 (Trichloronat); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 953-17-3 (Carbophenothion-methyl); 1563-66-2 (Carbofuran); 2032-59-9 (Aminocarb); 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2463-84-5 (Dicapthon); 2497-06-5 (Disulfoton-sulfone); 2497-07-6 (Disulfoton-sulfoxide); 2588-03-6 (Phorate-sulfoxide); 2588-04-7 (Phorate sulfone); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3070-15-3 (Fensulfothion-sulfide); 3383-96-8 (Temephos); 3735-01-1; 4824-78-6 (Bromophos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 6164-98-3 (Chlordimeform); 10548-10-4 (Terbufos-sulfoxide); 13071-79-9 (Terbufos); 14816-18-3 (Phoxim); 16752-77-5 (Methomyl); 18181-70-9; 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 23505-41-1; 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 29232-93-7 (Pyrimiphos-methyl); 56070-16-7 (Terbufos-sulfone) Role: PRP (Properties) (prediction of aq. soly. and octanol-water partition coeff. of, mol. structure in relation to) Correlations have been derived for the estn. of aq. solubilities and octanol-water partition coeffs. for pesticides, based solely on their mol. structure. The parameters used for obtaining these correlations are the zero order connectivity, zero order valence mol. connectivity, mol. polarizability, and carbon to hydrogen ratio. The results obtained are satisfactory for environmental applications. Such correlations may be used to predict the logarithm of aq. solubilities (<0.1) and/or the logarithm of the octanol-water partition coeffs. (>-0.4) for pesticides. However, these correlations cannot be used satisfactorily for pesticides having a carbon to hydrogen ratio >=2, or O-analogs. [on SciFinder (R)] 0304-3894 pesticide/ soly/ partition/ coeff/ mol/ structure

986. Patsias, J. and Papadopoulou-Mourkidou, E (1996). Rapid method for the analysis of a variety of chemical classes of pesticides in surface and ground waters by off-line solid-phase extraction and gas chromatography-ion trap mass spectrometry. *Journal of Chromatography, A* 740: 83-98.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:459583
Chemical Abstracts Number: CAN 125:135316
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 61, 80
Document Type: Journal
Language: written in English.
Index Terms: Chromatography; Mass spectrometry; Pesticides (detn. of pesticides in surface and ground waters by off-line solid-phase extn. and gas chromatog.-ion trap mass spectrometry)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (detn. of pesticides in surface and ground waters by off-line solid-phase extn. and gas chromatog.-ion trap mass spectrometry); 50-29-3 (DDT); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (DDD); 72-55-9; 76-44-8 (Heptachlor); 86-50-0 (Azinphos-methyl); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 133-06-2 (Captan); 298-00-0 (Parathion methyl); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 709-98-8 (Propanil); 732-11-6

(Phosmet); 786-19-6 (Carbofenothion); 834-12-8 (Ametryn); 886-50-0 (Terbutryn); 950-35-6 (Paraoxon methyl); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1007-28-9 (Deisopropylatrazine); 1014-69-3 (Desmetryn); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1634-78-2 (Malaoxon); 1698-60-8 (Chloridazon); 1746-81-2 (Monolinuron); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2275-18-5 (Prothoate); 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos-ethyl); 3060-89-7 (Metobromuron); 3424-82-6; 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 10311-84-9 (Dialifos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 15972-60-8 (Alachlor); 17040-19-6 (Demeton-S-methyl sulfone); 22248-79-9 (Tetrachlorvinphos); 23505-41-1; 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 26225-79-6 (Ethofumesate); 29232-93-7; 30864-28-9 (Methacrifos); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan II); 33693-04-8 (Terbumeton); 40487-42-1 (Pendimethalin); 41394-05-2 (Metamitron); 51218-45-2 (Metolachlor); 52918-63-5 (Decamethrin); 57837-19-1 (Metalaxyl); 60238-56-4 (Chlorthiophos); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 66230-04-4 (Fenvalerate a); 66267-77-4 (Fenvalerate b); 67564-91-4 (Fenpropimorph); 76674-21-0 (Flutriafol); 95465-99-9 (Cadusafos) Role: ANT (Analyte), ANST (Analytical study) (detn. of pesticides in surface and ground waters by off-line solid-phase extn. and gas chromatog.-ion trap mass spectrometry) A rapid multiresidue method for the anal., at trace levels, of 96 target analytes in field water samples has been developed. Pesticide parent compds., from a variety of chem. and biol. classes, as well as some of their major conversion products, were included in the target analyte list. Analytes were extd. from 1-l filtered water samples by off-line solid-phase extn. (SPE) on three tandem Sep-Pak C18 cartridges. The sorbed analytes eluted with Et acetate were directly analyzed by gas chromatog.-ion trap mass spectrometry (GC-IT-MS), the mass spectrometer operated in the electron impact (EI) ionization mode. The mean recoveries, at the 0.5 mg/L fortification level, for two-thirds of the analytes ranged from 75 to 120%; the recoveries for less than one third of the analytes ranged from 50 to 75% and the recoveries for the 10 relatively most polar analytes ranged from 12 to 50%. The limit of detection (LOD) of the method for 69 analytes was better than 0.01 mg/L; the LOD for eighteen analytes was better than 0.05 mg/L; for captan, carbofenothion, decamethrin, demeton-S-Me sulfone, fensulfothion, deisopropylatrazine and metamitron, the LOD was 0.1 mg/L and for chloridazon and tetradifon, it was 0.5 mg/L. Identification, in full scan mode, was made at S/N>=3. Quantification, for the majority of the analytes, was made at the base mass. The system was evaluated for monitoring pesticides in surface and ground water samples of Macedonia, Greece. [on SciFinder (R)] 0021-9673 pesticide/ water/ gas/ chromatog/ mass/ spectrometry

987. Patsias, John and Papadopoulou-Mourkidou, Euphemia (1999). A fully automated system for analysis of pesticides in water: on-line extraction followed by liquid chromatography-tandem photodiode array/postcolumn derivatization/fluorescence detection. *Journal of AOAC International* 82: 968-981.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:782528
Chemical Abstracts Number: CAN 131:355804
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides; Process automation (automated system for anal. of pesticides in water by online extn. followed by liq. chromatog.-tandem photodiode array/postcolumn derivatization/fluorescence detection)

CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (automated system for anal. of pesticides in water by online extn. followed by liq. chromatog.-tandem photodiode array/postcolumn derivatization/fluorescence detection); 50-29-3; 53-60-1 (Propazine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-55-9; 86-50-0 (Azinphos methyl); 87-86-5 (Pentachlorophenol); 88-75-5 (2-Nitrophenol); 94-74-6 (Mcpa); 94-75-7 (2,4-D); 99-30-9 (Dicloran); 100-02-7 (4-Nitrophenol); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 132-66-1; 132-66-1D (Naptalam); 133-06-2 (Captan); 298-00-0 (Parathion methyl); 298-01-1; 311-45-5 (Paraoxon); 330-54-1 (Diuron); 330-55-2 (Linuron); 338-45-4; 510-15-6 (Chlorobenzilate); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (Eptc); 786-19-6; 789-02-6; 834-12-8 (Ametryne); 950-35-6 (Paraoxon methyl); 1007-28-9 (Deisopropylatrazine); 1014-70-6 (Simetryne); 1085-98-9 (Dichlofluanid); 1129-41-5 (Metolcarb); 1134-23-2 (Cycloate); 1563-66-2 (Carbofuran); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1698-60-8 (Chloridazon); 1746-81-2 (Monolinuron); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2163-68-0 (Hydroxy atrazine); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2642-71-9 (Azinphos ethyl); 3383-96-8 (Temephos); 3424-82-6; 3766-81-2 (Fenobucarb); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0; 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 6190-65-4 (Deethylatrazine); 6988-21-2 (Dioxacarb); 7287-19-6 (Prometryne); 7554-84-9; 7554-84-9D; 10311-84-9 (Dialifos); 13457-18-6 (Pyrazophos); 13684-56-5 (Desmedipham); 15299-99-7 (Napropamide); 15545-48-9 (Chlortoluron); 16655-82-6 (3-Hydroxy carbofuran); 16752-77-5 (Methomyl); 19666-30-9 (Oxadiazon); 19937-59-8 (Metoxuron); 22224-92-6 (Fenamiphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphos ethyl); 23564-05-8 (Thiophanate methyl); 23564-06-9 (Thiophanate ethyl); 23950-58-5 (Propyzamide); 25057-89-0 (Bentazone); 26225-79-6 (Ethofumesate); 28249-77-6 (Thiobencarb); 29232-93-7 (Pirimiphos methyl); 29973-13-5 (Ethiofencarb); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34123-59-6 (Isoproturon); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35367-38-5 (Diflubenzuron); 36734-19-7 (Iprodione); 39196-18-4 (Thiofanox); 40487-42-1 (Pendimethalin); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 51630-58-1 (Fenvalerate); 52918-63-5 (Decamethrin); 55179-31-2 (Bitertanol); 55285-14-8 (Carbosulfan); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66246-88-6 (Penconazole); 67747-09-5 (Prochloraz); 70124-77-5 (Flucythrinate); 72490-01-8 (Fenoxycarb); 81335-37-7 (Imazaquin); 82097-50-5 (Triasulfuron); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 86479-06-3 (Hexaflumuron); 87820-88-0 (Tralkoxydim); 91465-08-6 (l-Cyhalothrin); 100728-84-5 (Imazamethabenz); 138261-41-3 (Imidacloprid) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (automated system for anal. of pesticides in water by online extn. followed by liq. chromatog.-tandem photodiode array/postcolumn derivatization/fluorescence detection)

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Citations: 2) Isenbeck-Schroter, M; Monograph No 91 1997
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Citations: 22) Young, M; J AOAC Int 1998, 81, 99
Citations: 23) D'Ascenzo, G; Environ Sci Technol 1998, 32, 1340
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Citations: 27) Colina, C; Analyst 1995, 120, 1723
Citations: 28) Mangani, F; Chromatographia 1995, 41, 678
Citations: 29) Zhang, Z; Anal Commun 1996, 33, 219
Citations: 30) Choudhury, T; Environ Sci Technol 1996, 30, 3259
Citations: 31) Boyd-Boland, A; Analyst 1996, 121, 929
Citations: 32) Ballesteros, E; Environ Sci Technol 1996, 30, 2071
Citations: 33) Ridal, J; Anal Chem 1997, 69, 711
Citations: 34) Patsias, J; J Chromatogr A 1996, 740, 83
Citations: 35) AOAC; Official Methods of Analysis 2nd Supplement to the 15th Ed 1991, 69 A fully automated system for online solid phase extn. (SPE) followed by HPLC with tandem detection with a photodiode array detector and a fluorescence detector (after postcolumn derivatization) was developed for anal. of many chem. classes of pesticides and their major conversion products in aquatic systems. An automated online-SPE system (Prospekt) operated with reversed-phase cartridges (PRP-1) exts. analytes from 100 mL acidified (pH =3) filtered water sample. Online HPLC anal. is performed with a 15-cm C18 anal. column eluted with a mobile phase of phosphate (pH =3)-acetonitrile in 25 min linear gradient mode. Solutes are detected by tandem diode array/derivatization/fluorescence detection. The system is controlled and monitored by a single computer operated with Millennium software. Recoveries of most analytes in samples fortified at 1 mg/L are >90%, with relative std. deviation values of <5%. For a few very polar analytes, mostly N-methylcarbamoyloximes (i.e., aldicarb sulfone, methomyl, and oxamyl), recoveries are <20%. However, for these compds., as well as for the rest of the N-methylcarbamates except for aldicarb sulfoxide and butoxycarboxim, the limits of detection (LODs) are 0.005-0.05 mg/L. LODs for aldicarb sulfoxide and butoxycarboxim are 0.2 and 0.1 mg, resp. LODs for the rest of the analytes except 4-nitrophenol, bentazone, captan, decamethrin, and MCPA are 0.05-0.1 mg/L. LODs for the latter compds. are 0.2-1.0 mg/L. The system can be operated unattended. [on SciFinder (R)] 1060-3271 automated/ analysis/ pesticide/ water/ online/ extn/ liq/ chromatog;/ pesticide/ water/ online/ extn/ liq/ chromatog;/ liq/ chromatog/ tandem/ photodiode/ array/ postcolumn/ derivatization/ fluorescence/ detection

988. Pauli, B. D., Perrault, J. A., and Money, S. L. (2000). RATL: A Database of Reptile and Amphibian Toxicology Literature. *Tech.Rep.Ser.No.357, National Wildlife Res.Centre* 494 p.
<u>Chem Codes</u>: EcoReference No.: 93024
Chemical of Concern:
FMP,FNT,FTH,FNV,FRN,HPT,Hg,IFP,MLN,MDT,MCB,ACP,Ag,Al,ADC,AND,PCB,As,ATZ,AZ,Ba,Bc,BDC,HCCH,CBL,CBF,Cd,CHD,CPH,Co,CMPH,Cr,Cu,DDT,DEM,DZ,DDVP,DLF,DCTP,DLD,DMT,DXN,DS,ES,EN,ETN,EP,Fe,MOM,MXC,MTL,MVP,Mg,MRX,Mn,Mo,MYC,Nalcd,Ni,PHTH,OML,PAH,PRN,MP,Pb,PCP,PRT,PHSL,PSM,PPHD,PTP,PPX,Se,TCDD,TBO,TXP,V,An,ATN,NHN,BDF,BTY,CPY,CTN,Cl,CuS,CYP,DM,DBN,DFZ,Nabam,PA,PAH,GYP,LNR,MLN,MZB,MLX,MBZ,NH,NRM,RTN,Zns,ANT,PAH,TBC,BNZ,CdN,CTC,CBZ,CF,CZE,CYH,DU,EDT,EFV,EGY,Maneb,MCPA,HgCl2,MLT,NAPH,PAH,NBZ,PAQT,PPB,PCL,PCH,PPN,CET,REM,24DXY,ATP,ACL,ACY,AMTL,ANZ,AN,BRA,BPZ,TC,CdS,CaCl2,CBD,CdCl,CoCl,CN,CYF,DMB,DINO,NP,ETHN,EDB,FPP,FBM,GIB,FAME,IoDN,IMC,MLO,MTB,NCTN,NHP,SRT,OMT,PQT,PbAC,PbN,PHE,PAH,PL,PTR,PND,K2CrO4,K2Cr2O7,PYPG,PYR,PAH,PYN,SBA,SAC,SCA,Sb,AgN,nABr,SFL,NaNO3,STCH,SFT,SA,TBT,TMP,TMT,TI,TBA,TPM,TH

M,TOL,3CE,TEG,FRN,TPR,UREA,MTPN,VCZ,WFN,Zineb Rejection Code: REVIEW.

989. Peacocke, A. R. and Schachman, H. K. (1954). Studies on the sedimentation behaviour of thymus deoxypentose nucleic acid with reference to its homogeneity, size and shape. *Biochimica et Biophysica Acta* 15: 198-210.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

1. 1. An examination has been made of the sedimentation and electrophoretic behaviour of separate and mixed solutions of a thymus deoxypentose nucleic acid (DNA) preparation and of the same DNA degraded by sonic irradiation. 2. 2. In sedimentation at an ionic strength of 0.3, the presence of 10% of the degraded DNA in a mixture could be detected, but the method was limited by self-sharpening effects in the boundary and by the insensitivity of sedimentation coefficient (s) to molecular weight. It is concluded that the original DNA cannot contain as much as 10% of such degraded material, but there is some indication of polydispersity in sedimentation at low concentrations. During sedimentation of a mixed solution containing equal amounts of the two DNA's the area of the schlieren peak of the slower, degraded DNA was enhanced by the operation of the Johnston-Ogston effect. 3. 3. In electrophoresis, the individual DNA samples had the same mobility, in spite of the very great difference in the viscosity of their solutions. No separation was observed with the mixtures. 4. 4. Solutions of the degraded DNA (ionic strength = 0.3) had a very much lower viscosity than those of the original DNA and behaved as Newtonian liquids. This enabled its intrinsic viscosity to be determined and a molecular weight for the degraded DNA of the order of 3-4[middle dot]105 was calculated on the basis of different models. 5. 5. The sedimentation data are discussed with reference to the sedimentation of long rod-like] molecules in general. Application of Perrin's equation shows that, for very large axial ratios, s is chiefly dependent on the minor axis of the equivalent prolate ellipsoid. If this model is assumed, the anhydrous diameter of the undegraded DNA molecule in solution can be estimated as 25 A. The data are also discussed in terms of a flexible chain model, and, on that basis, a molecular weight of about 8.5[middle dot]106 is obtained. http://www.sciencedirect.com/science/article/B73G9-47KP99P-5/2/624dd13e0e6a0ad0a43296db5aa746c5

990. Pennington, D. W (2001). An evaluation of chemical persistence screening approaches. *Chemosphere* 44: 1589-1601.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2001:573818
Chemical Abstracts Number: CAN 135:191469
Section Code: 4-3
Section Title: Toxicology
CA Section Cross-References: 19, 59, 61
Document Type: Journal
Language: written in English.
Index Terms: Partition (affinity; evaluation of chem. persistence screening approaches); Air; Decomposition; Environmental pollution; Geological sediments; Henry's law; Residence time; Soils; Waters (evaluation of chem. persistence screening approaches)
CAS Registry Numbers: 55-18-5 (N-Nitrosodiethylamine); 57-57-8 (b-Propiolactone); 62-75-9 (N-Nitrosodimethylamine); 72-43-5 (Methoxychlor); 75-44-5 (Phosgene); 79-44-7 (Dimethylcarbamyl chloride); 85-01-8 (Phenanthrene); 85-44-9 (Phthalic anhydride); 96-09-3 (Styrene oxide); 98-07-7 (Benzotrichloride); 98-88-4 (Benzoyl chloride); 106-44-5 (p-Cresol); 107-30-2 (Chloromethyl methyl ether); 120-12-7 (Anthracene); 121-75-5 (Malathion); 129-00-0 (Pyrene); 133-07-3; 330-54-1; 505-60-2 (Mustard gas); 541-41-3 (Ethyl chloroformate); 621-64-7 (N-Nitrosodipropylamine); 624-83-9 (Methylisocyanate); 684-93-5 (N-Methyl-N-nitrosourea); 732-11-6 (Phosmet); 759-73-9; 924-16-3 (Dibutylnitrosamine); 17804-35-2 (Benomyl) Role: GPR (Geological or astronomical process), POL (Pollutant), PRP (Properties), OCCU (Occurrence), PROC (Process) (evaluation of chem. persistence screening approaches)

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Citations: Bennett, D; Environ Toxicol Chem 2000, 19, 810
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Citations: US EPA; A multimedia strategy for priority persistent, bioaccumulative and toxic (PBT) pollutants 1998, EPA 742D98001
Citations: Wania, F; Sci Total Environ 1995, 160, 211
Citations: Wania, F; Report for the Chlorine Chemistry Council 2000
Citations: Webster, E; Environ Toxicol Chem 1998, 17, 2148 A chem.'s ability to persist in the environment is an important criterion in detg. whether concern is warranted. Screening is commonly conducted based on the max. degrdn. half-life of the chem. in any given medium (air, water, soil and sediment), or in terms of model-based ests. of the chem.'s overall persistence (half-life or residence time) in the environment. In practice, however, both approaches are hindered by the limited availability of degrdn. data. Straightforward guidelines are therefore proposed in this paper to help predetermine which half-lives are likely to be pertinent, irresp. of the screening approach adopted. The guidelines are based on partitioning coeffs. (Henry's Law const. and the octanol-water partitioning coeff.). The values selected for use in the guidelines result in a quantifiable trade-off between data acquisition requirements and uncertainty. Initial screening can be performed with whatever data is readily available. Overall persistence predictions will be conservative. False-negatives are not generated. The guideline values can then be adjusted iteratively to facilitate step-wise or tiered screening. Using this iterative approach in national and international screening initiatives will result in significant time and money savings. [on SciFinder (R)] 0045-6535 environmental/ pollution/ persistence

991. Pennycook, Frank R., Diamand, Emily M., Watterson, Andrew, and Howard, C. Vyvyan (2004). Modeling the dietary pesticide exposures of young children. *International Journal of Occupational and Environmental Health* 10: 304-309.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 2004:822327
Chemical Abstracts Number: CAN 142:70124
Section Code: 4-4
Section Title: Toxicology
CA Section Cross-References: 17
Document Type: Journal

Language: written in English.
Index Terms: Development (child; modeling the dietary pesticide exposures of young children); Food contamination; Human; Malus pumila; Pyrus communis; Risk assessment (modeling the dietary pesticide exposures of young children); Environmental pollution (pesticide; modeling the dietary pesticide exposures of young children)
CAS Registry Numbers: 594-07-0D (Carbamodithioic acid); 732-11-6 (Phosmet); 10605-21-7 (Carbendazim) Role: POL (Pollutant), OCCU (Occurrence) (modeling the dietary pesticide exposures of young children)
Citations: 1) National Research Council; Pesticides in the diets of infants and children 1993
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Citations: 25) Raffensberger, C; Protecting the Public Health and the Environment:Implementing the Precautionary Principle 1999 A stepped approach was used to assess the exposures of 1 1/2- 4 1/2-yr-old children in the United Kingdom to residues of pesticides (dithiocarbamates; phosmet; carbendazim) found in apples and pears. The theor. possibility that the acute ref. dose (ARD) was being exceeded for a particular pesticide/fruit was tested by applying a combination of maximal variability and max. measured residue relative to an av.-body-wt. consumer. The actual risk was then quantified by stochastically modeling consumption, from dietary survey data, with individual body wts., against published residue results for 2000-2002 and the variability of residue distribution within batches. The results, expressed as nos. of children per day likely to ingest more than the ARD, were in the range of 10-226.6 children per day, depending upon the pesticide and year of sampling. The implications for regulatory action are discussed. [on SciFinder (R)] 1077-3525 pesticide/ pollution/ apple/ pear/ risk/ assessment/ child

992. Penzotti, Julie E., Lamb, Michelle L., Evensen, Erik, and Grootenhuis, Peter D. J (2002). A Computational Ensemble Pharmacophore Model for Identifying Substrates of P-Glycoprotein. *Journal of Medicinal Chemistry* 45: 1737-1740.

Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Database: CAPLUS
Accession Number: AN 2002:227327
Chemical Abstracts Number: CAN 137:148
Section Code: 1-1
Section Title: Pharmacology
Document Type: Journal
Language: written in English.
Index Terms: Conformation; Drug screening; Multidrug resistance; Pharmacophores; Simulation and Modeling (computational ensemble pharmacophore model for identifying substrates of P-glycoprotein); P-glycoproteins Role: BSU (Biological study, unclassified), BIOL (Biological study) (computational ensemble pharmacophore model for identifying substrates of P-glycoprotein); Chemistry (computational; computational ensemble pharmacophore model for identifying substrates of P-glycoprotein); Biological transport (drug; computational ensemble pharmacophore model for identifying substrates of P-glycoprotein); Biological transport (efflux; computational ensemble pharmacophore model for identifying substrates of P-glycoprotein)
CAS Registry Numbers: 73113-90-3 (Hydroxyrubicin) Role: PRP (Properties) (Hydroxyrubicin; computational ensemble pharmacophore model for identifying substrates of P-glycoprotein); 50-02-2 (DEXAMETHASONE); 50-06-6 (PHENOBARBITAL); 50-07-7 (MITOMYCIN C); 50-18-0 (CYCLOPHOSPHAMIDE); 50-22-6 (CORTICOSTERONE); 50-23-7 (HYDROCORTISONE); 50-24-8 (PREDNISOLONE); 50-27-1 (ESTRIOL); 50-52-2 (THIORIDAZINE); 50-55-5 (RESERPINE); 50-76-0 (Actinomycin D); 51-21-8 (FLUOROURACIL); 51-43-4 (EPINEPHRINE); 52-39-1 (ALDOSTERONE); 52-53-9 (VERAPAMIL); 53-79-2 (PUROMYCIN); 56-54-2 (QUINIDINE); 57-22-7 (VINCRISTINE); 57-41-0 (PHENyTOIN); 57-83-0 (PROGESTERONE); 58-39-9 (PERPHENAZINE); 58-89-9 (LINDANE); 60-57-1 (DIELDRIN); 63-25-2 (CARBARYL); 64-85-7 (DEOXYcorticosterone); 64-86-8 (Colchicine); 69-23-8 (FLUPHENAZINE); 71-63-6 (DIGITOXIN); 72-43-5 (METHOXYCHLOR); 72-57-1 (TRYPAN BLUE); 76-99-3 (METHADONE); 83-43-2 (METHYLPREDNISOLONE); 83-60-3 (Reserpic acid); 85-79-0 (DIBUCAINE); 114-07-8 (ERYTHROMYCiN); 115-29-7 (ENDOSULFAN*); 116-06-3 (ALDICARB); 117-89-5 (TRIFLUOPERAZINE); 120-58-1 (ISOSAFROLE); 130-95-0 (QUININE); 135-67-1 (PHENOXAZINE); 143-62-4 (DIGITOXIGENIN); 146-48-5 (YOHIMBINE); 146-54-3 (TRIFLUPROMAZINE); 147-94-4 (CYTARABINE); 148-82-3 (MELPHALAN); 152-58-9 (CORTEXOLONE); 154-93-8 (CARMUSTINE); 305-03-3 (CHLORAMBUCIL); 481-49-2 (CEPHARANTHINE); 485-71-2 (CINCHONIDINE); 732-11-6 (PHOSMET); 749-02-0 (SPIPERONE); 865-21-4 (VINBLASTINE); 1646-88-4 (ALDOXYCARB); 1672-46-4 (DIGOXIGENIN); 1912-24-9 (ATRAZINE); 1951-25-3 (Amiodarone); 2001-95-8 (Valinomycin); 2182-14-1 (VINDOLINE); 2385-85-5 (MIREX); 2468-21-5; 2709-56-0 (FLUPENTHIXOL); 2751-90-8 (TETRAPHENYL PHOSPHONIUM BROMIDE); 2901-66-8 (METHYLRESERPATE); 3131-03-1 (PRISTINAMYCiNIA); 3690-10-6 (NSC 309132); 4375-07-9 (EPIPODOPHYLLOTOXI N); 4602-84-0 (FARNESOL); 4685-14-7 (PARAQUAT); 5554-59-6 (NSC 364080); 5602-68-6 (NSC 49899); 7786-34-7 (MEVINPHOS); 10311-84-9 (DIALIFOS); 10540-29-1 (TAMOXIFEN); 13292-46-1 (RIFAMPICIN); 15639-50-6 (SAFINGOL); 16662-47-8 (GALLOPAMIL); 17090-79-8 (MONENSIN); 18378-89-7 (MITHRAMYCIN A); 19186-35-7 (DEOXY-PODOPHYLLOTOXIN); 19216-56-9 (PRAZOSIN); 20278-59-5 (NSC 606532); 20290-10-2 (MORPHINE 6-GLUCURONIDE); 20830-75-5 (DIGOXIN); 20830-81-3 (DAUNORUBICIN); 21609-90-5 (LEPTOPHOS); 21829-25-4 (NIFEDIPINE); 23214-92-8 (DOXORUBICiN); 23491-52-3 (HOE33342); 23593-75-1 (CLOTRIMAZOLE); 25953-19-9 (CEFAZOLIN); 26644-46-2 (TRIFORINE); 28380-24-7 (Nigericin); 29767-20-2 (TENIPOSIDE); 33069-62-4 (PACLITAXEL); 33419-42-0 (ETOPOSIDE); 37517-30-9 (ACEBUTOLOL); 41575-94-4 (CARBOPLATIN); 42399-41-7 (DILTIAZEM); 44641-43-2 (CYSTEINE methyl ESTER); 50471-44-8 (VINCLOZOLIN); 50679-08-8 (TERFENADINE); 53123-88-9 (RAPAMYCIN); 53179-11-6 (LOPERAMIDE); 53772-82-0 (cis-Flupenthixol); 55123-66-5 (LEUPEPTIN); 55985-32-5 (NICARDIPINE); 56980-93-9 (CELIPROLOL); 58957-92-9 (IDARUBICIN); 59467-70-8

(MIDAZOLAM); 59865-13-3 (Cyclosporin A); 60207-90-1 (PROPICONAZOLE); 62669-70-9 (RHODAMINE 123); 62893-19-0 (CEFOPERAZONE); 62996-74-1 (STAUROSPORINE); 64706-54-3 (BEPRiDIL); 65271-80-9 (MITOXANTRONE); 66085-59-4 (NIMODIPINE); 66358-49-4 (NSC 314622); 67642-36-8; 68000-92-0; 69712-56-7 (CEFOTETAN); 69806-50-4 (FLUAZIFOPBUTYL); 70288-86-7 (IVERMECTIN); 75330-75-5 (LOVASTATIN); 75621-03-3 (CHAPS); 75949-61-0 (PAFENOLOL); 78186-34-2 (BISANTRENE); 89778-26-7 (TOREMIFENE); 90523-31-2 (AZIDOPINE); 99614-02-5 (ONDANSETRON); 114977-28-5 (DOCETAXEL); 120054-86-6 (DEXNIGULDIPINE); 120685-11-2 (CG P-41251); 121263-19-2 (CALPHOSTIN C); 121584-18-7 (SDZ PSC-833); 123948-87-8 (TOPOTECAN); 126463-15-8 (NSC 623083); 127779-20-8 (SAQUINAVIR); 128666-81-9 (NSC 686028); 130062-64-5; 131246-38-3 (NSC 648403); 135812-04-3 (NSC 615985); 137694-16-7 (BIBW 22BS); 140945-01-3 (S 9788); 143664-11-3 (GF 120918); 150378-17-9 (INDINAVIR); 152044-53-6 (EPOTHILONE A); 155252-35-0; 155252-36-1; 159875-50-0 (NSC 667533); 159989-64-7 (NELFINAVIR); 160450-56-6 (NSC 667532); 161976-69-8 (NSC 666331); 164665-13-8; 167465-36-3 (LY335979); 182198-53-4 (L-767679); 191729-65-4 (NSC 678047); 200340-45-0 (NSC 676593); 208398-10-1 (NSC 676610); 208398-12-3 (NSC 676615); 208398-21-4 (NSC 676618); 208398-22-5 (NSC 676617); 208398-24-7 (NSC 676616); 210365-50-7; 210365-51-8; 210365-55-2; 210365-56-3; 211060-81-0; 432041-70-8; 432550-02-2 (NSC 617286); 432550-03-3 (NSC 630148); 432550-04-4 (NSC 630721); 432550-05-5; 432550-06-6 (NSC 664565); 432550-08-8 (NSC 668354); 432550-09-9 (NSC 674508); 432550-10-2; 432550-22-6 (NSC 630357); 432550-23-7 (NSC 639677); 432550-24-8 (NSC 653278); 432550-25-9 (NSC 667551); 432550-26-0 (NSC 667560); 432550-27-1 (NSC 671400) Role: PRP (Properties) (computational ensemble pharmacophore model for identifying substrates of P-glycoprotein)

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Citations: 1) Seelig, A; Eur J Biochem 1998, 251, 252
Citations: 2) Di Pietro, A; Braz J Med Biol Res 1999, 32, 925
Citations: 3) Schmid, D; Biochem Pharmacol 1999, 58, 1447
Citations: 4) Ecker, G; Mol Pharmacol 1999, 56, 791
Citations: 5) Preiss, R; Int J Clin Pharmacol Ther 1998, 36, 3
Citations: 6) Osterberg, T; Eur J Pharm Sci 2000, 10, 295
Citations: 7) Pascaud, C; Biochem J 1998, 333
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Citations: 9) Sharom, F; Biochim Biophys Acta 1999, 1461, 327
Citations: 10) Wandel, C; Cancer Res 1999, 59, 3944
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Citations: 26) Benet, L; J Controlled Release 1999, 62, 25
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Citations: 28) Spahn-Langguth, H; Int J Clin Pharmacol Ther 1998, 36, 16
Citations: 29) Sikic, B; Semin Hematol 1997, 34, 40
Citations: 30) Kim, R; J Clin Invest 1998, 101, 289
Citations: 31) Katoh, M; Eur J Pharm Sci 2001, 12, 505
Citations: 32) Bates, S; Personal communication P-glycoprotein (P-gp) functions as a drug efflux pump, mediating multidrug resistance and limiting the efficacy of many drugs. Clearly, identification of potential P-gp substrate liability early in the drug discovery process would be advantageous. We describe a multiple-pharmacophore model that can discriminate between substrates and nonsubstrates of P-gp with an accuracy of 63%. The application of this filter allows large virtual libraries to be screened efficiently for compds. less likely to be transported by P-gp. [on SciFinder (R)] 0022-2623 pharmacophore/ model/ Pglycoprotein/ substrate/ screening/ computational/ design;/ multidrug/ resistance/ drug/ efflux/ pump/ Pglycoprotein/ substrate/ pharmacophore;/ conformational/ model/ pharmacophore/ Pglycoprotein/ substrate/ screening/ library

993. Pervaiz, S. (Chemotherapeutic Potential of the Chemopreventive Phytoalexin Resveratrol. *Drug resist updat. 2004, dec; 7(6):333-44. [Drug resistance updates : reviews and commentaries in antimicrobial and anticancer chemotherapy]: Drug Resist Updat*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: The last couple of decades have seen a tremendous increase in interest in the biological properties of natural products as a means to identify novel small compounds that could have potential in clinical medicine. To that end, flavonoids- and flavonoid-like compounds percolate to the top due to their presence in diet constituents and reported beneficial effects on diverse biological processes and disease conditions. As such, the plant polyphenolic antibiotic resveratrol, found in grapes, nuts and wines, has been the focus of many studies aimed at understanding its full range of health beneficial effects. The interest in this compound stems from the earlier observations describing the therapeutic benefits of roots of the oriental medicinal plant from which resveratrol was first isolated. Being a constituent of grapes and wines, the initial work was focused on linking resveratrol to the beneficial cardiovascular effects of moderate wine intake, however, since its reported cancer chemopreventive activity in a murine model of carcinogenesis, there has been a heightened interest in understanding the anti-cancer activity of resveratrol. As a result, a substantial amount of data strongly suggests that resveratrol could affect the process of carcinogenesis through a variety of different mechanisms in different tumor cell types. However, a couple of recent reports provide evidence to the contrary. This critical review attempts to summarize some of these findings and discuss the clinical potential of this compound or its derivatives in the light of the recent conflicting reports.

MESH HEADINGS: Animals
MESH HEADINGS: Anticarcinogenic Agents/pharmacokinetics/*pharmacology
MESH HEADINGS: Apoptosis/drug effects
MESH HEADINGS: Biological Availability
MESH HEADINGS: Cell Line, Tumor
MESH HEADINGS: Humans
MESH HEADINGS: Neoplasms/pathology/*prevention &amp
MESH HEADINGS: control
MESH HEADINGS: Plant Extracts/pharmacokinetics/*pharmacology
MESH HEADINGS: Stilbenes/pharmacokinetics/*pharmacology
MESH HEADINGS: Terpenes
LANGUAGE: eng

994. Perveen, A. and Qaiser, M. (2004). Pollen Flora of Pakistan -Xl. Fumariaceae. *Pakistan Journal of Botany, 36 (3) pp. 467-473, 2004*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0556-3321
Abstract: Pollen morphology of 9 species of the family Fumariaceae from Pakistan has been examined by light and scanning electron microscope. Pollen grains are usually radially symmetrical, isopolar rarely apolar 3-6 colpate occasionally porate, prolate-sub-prolate or oblate-spheroidal rarely suboblate. Sexine thinner or thicker than nexine. Tectum rugulate - fossulate or fossulate-foveolate. On the basis of apertural type, two distinct pollen types are recognized viz., Corydalis diphylla- type and Fumaria indica - type. Playnological data has been useful at generic and specific level.
17 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Pakistan
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

995. Perveen, A. and Qaiser, M. (2004). Pollen Flora of Pakistan - Xli. Cuscutaceae. *Pakistan Journal of Botany, 36 (3) pp. 475-480, 2004*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0556-3321
Abstract: Pollen morphology of 11 species belonging to the genus Cuscuta of the family Cuscutaceae from Pakistan have been examined by light and scanning electron microscope. Cuscutaceae is an eurypalynous family. Pollen grains are generally free, radially symmetrical, isopolar or apolar, colpate, oblate-spheroidal - prolate-spheroidal or sub-prolate rarely spheroidal. Sexine is thicker or as thick as nexine. Tectum reticulate, reticulate rugulate, scabrate or punctate-scabrate. The pollen morphology of the family Cuscutaceae is significantly helpful at specific level. On the basis of exine ornamentation, 3 distinct pollen types viz., Cuscuta reflexa - type, Cuscuta capitata- type and Cuscuta campestris type are recognized.
17 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Pakistan

Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

996. Perveen, A. and Qaiser, M. (2003). Pollen Flora of Pakistan -Xxii. Oxalidaceae. *Pakistan Journal of Botany, 35 (1) pp. 3-6, 2003*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0556-3321
Abstract: Pollen morphology of 3 species of the genus Oxalis L., (Oxalidaceae), from Pakistan has been examined by light and scanning electron microscope. Pollen grains usually radially symmetrical, isopolar or apolar, prolate-subprolate, rarely oblate - spheroidal, colpate. Sexine thinner or thicker than nexine. Tectum reticulate. On the basis of pollen shape, 2 distinct pollen types viz., Oxalis corniculata - type and Oxalis pescaprae - type are recognized.
15 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Pakistan
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.6.2 STRUCTURE: Microscopy
Subfile: Plant Science

997. Perveen, A. and Qaiser, M. (2002). Pollen Flora of Pakistan - Xxxiv. Sapotaceae. *Pakistan Journal of Botany, 34 (3) pp. 225-228, 2002*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0556-3321
Abstract: Pollen morphology of the family Sapotaceae has been examined from Pakistan by light and scanning electron microscope. Pollen grains are generally tricolporate, triangular, prolate with striate - rugulate tectum.
13 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Pakistan
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.6.2 STRUCTURE: Microscopy
Subfile: Plant Science

998. Perveen, A. and Qaiser, M. (2002). Pollen Flora of Pakistan -Xxxv. Cornaceae. *Pakistan Journal of Botany, 34 (2) pp. 157-160, 2002*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0556-3321
Abstract: Pollen morphology of the family Cornaceae has been examined from Pakistan by light and scanning electron microscope. Pollen grains are generally tricolporate, triangular, prolate-spheroidal with densely fossulate to foveolate tectum.

18 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Pakistan
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.6.2 STRUCTURE: Microscopy
Subfile: Plant Science

999. Perveen, A. , Qaiser, M., and Khan, R. (2004). Pollen Flora of Pakistan -Xlii. Brassicaceae. *Pakistan Journal of Botany, 36 (4) pp. 683-700, 2004.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0556-3321
Abstract: Pollen morphology of 77 species belonging to 36 genera of the family Brassicaceae from Pakistan has been examined by light and scanning electron microscope. Pollen grains are usually radially symmetrical, isopolar sub-prolate to prolate, or prolate-spheroidal rarely oblate-spheroidal, tricolpate rarely 4-8 colpate. Sexine thinner or thicker than nexine. Tectum fine to coarsely reticulate with more or less regular pattern of muri or reticulate - rugulate. On the basis of tectal surface four distinct pollen types are recognized viz., Arabis bijuga-type, Farsetia ramosissima-type, Draba lanceolata -type and Erysimum melicentae - type.
18 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Pakistan
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Subfile: Plant Science

1000. Petricoin, E. F., Rajapaske, V., Herman, E. H., Arekani, A. M., Ross, S., Johann, D., Knapton, A., Zhang, J., Hitt, B. A., Conrads, T. P., Veenstra, T. D., Liotta, L. A., and Sistare, F. D. (Toxicoproteomics: Serum Proteomic Pattern Diagnostics for Early Detection of Drug Induced Cardiac Toxicities and Cardioprotection. *Toxicol pathol. 2004 mar-apr; 32 suppl 1:122-30. [Toxicologic pathology]: Toxicol Pathol.*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: Proteomics is more than just generating lists of proteins that increase or decrease in expression as a cause or consequence of pathology. The goal should be to characterize the information flow through the intercellular protein circuitry which communicates with the extracellular microenvironment and then ultimately to the serum/plasma macroenvironment. The nature of this information can be a cause, or a consequence, of disease and toxicity based processes as cascades of reinforcing information percolate through the system and become reflected in changing proteomic information content of the circulation. Serum Proteomic Pattern Diagnostics is a new type of proteomic platform in which patterns of proteomic signatures from high dimensional mass spectrometry data are used as a diagnostic classifier. While this approach has shown tremendous promise in early detection of cancers, detection of drug-induced toxicity may also be possible with this same technology. Analysis of serum from rat models of anthracycline and anthracenedione induced cardiotoxicity indicate the potential clinical utility of diagnostic proteomic patterns where low molecular weight peptides and protein fragments may have higher accuracy than traditional biomarkers of cardiotoxicity such as troponins. These fragments may one day be harvested by circulating nanoparticles designed to absorb, enrich and

amplify the diagnostic biomarker repertoire generated even at the critical initial stages of toxicity.
MESH HEADINGS: Animals
MESH HEADINGS: Anthracyclines/toxicity
MESH HEADINGS: Anthraquinones/toxicity
MESH HEADINGS: Blood Proteins/*analysis
MESH HEADINGS: Cardiomyopathies/*chemically induced/*prevention &amp
MESH HEADINGS: control
MESH HEADINGS: Humans
MESH HEADINGS: Mass Spectrometry
MESH HEADINGS: Models, Biological
MESH HEADINGS: Molecular Diagnostic Techniques/instrumentation/methods
MESH HEADINGS: Nanotechnology
MESH HEADINGS: *Proteomics
MESH HEADINGS: Spectrometry, Mass, Matrix-Assisted Laser Desorption-Ionization
MESH HEADINGS: Time Factors
MESH HEADINGS: *Toxicology
LANGUAGE: eng

1001. Phelps, G. G. (Chemistry of Ground Water in the Silver Springs Basin, Florida, With an Emphasis on Nitrate. *Govt reports announcements & index (gra&i), issue 20, 2006*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Scientific investigations rept.
ABSTRACT: Prepared in cooperation with Saint Johns River Water Management District, Palatka, FL., Southwest Florida Water Management District, Tallahassee. and Florida State Dept. of Environmental Protection, Tallahassee.
ABSTRACT: The Silver Springs group, in central Marion County, Florida, has a combined average discharge rate of 796 cubic feet per second and forms the headwaters of the Silver River. The springs support a diverse ecosystem and are an important cultural and economic resource. Concentrations of nitrite-plus-nitrate (nitrate-N) in water from the Main Spring increased from less than 0.5 milligrams per liter (mg/L) in the 1960s to about 1.0 mg/L in 2003. The Upper Floridan aquifer supplies the ground water to support spring discharge. This aquifer is at or near land surface in much of the ground-water basin; nutrients leached at land surface can easily percolate downward into the aquifer. Sources of nitrogen in ground water in the Silver Springs basin include atmospheric deposition, fertilizers used by agricultural and urban activities, and human and animal wastes. During 2000-2001, 56 wells in the area contributing recharge to Silver Springs were sampled for major ions, nutrients, and some trace constituents. Selected wells also were sampled for a suite of organic constituents commonly found in domestic and industrial wastewater and for the ratio of nitrogen isotopes (15N/14N) to better understand the sources of nitrate. Wells were selected to be representative of both confined and unconfined conditions of the Upper Floridan aquifer, as well as a variety of land-use types. Data from this study were compared to data collected from 25 wells in 1989-90. Concentrations of nitrate-N in ground water during this study ranged from less than the detection limit of 0.02 to 12 mg/L, with a median of 1.2 mg/L. For data from 1989-90, the range was from less than 0.02 to 3.6 mg/L, with a median of 1.04 mg/L.
KEYWORDS: Ground water
KEYWORDS: *Florida
KEYWORDS: *Nitrates
KEYWORDS: *Hydrogeology
KEYWORDS: Silver river
KEYWORDS: Land use
KEYWORDS: Fertilizers
KEYWORDS: Water pollution
KEYWORDS: Silver Springs group
KEYWORDS: Marion County(Florida)

1002. Pico, Y., Molto, J. C., Redondo, M. J., Viana, E., Manes, J., and fONT, g (1994). Monitoring of the

pesticide levels in natural waters of the Valencia community (Spain). *Bulletin of Environmental Contamination and Toxicology* 53: 230-7.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:465013
Chemical Abstracts Number: CAN 121:65013
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Water pollution (by pesticides, in Valencia Community, Spain); Pesticides (water pollution by, in Valencia Community, Spain)
CAS Registry Numbers: 53-19-0 (o,p'-DDD); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 63-25-2 (Carbaryl); 95-06-7 (Vegadex); 116-29-0 (Tetradifon); 119-12-0 (Pyridafenthion); 121-75-5 (Malathion); 122-14-5 (Sumithion); 122-34-9 (Simazine); 133-06-2 (Captan); 133-07-3 (Folpet); 139-40-2 (Propazine); 298-00-0 (Methylparathion); 298-04-4 (Disulfoton); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Fosmet); 786-19-6 (Trithion); 944-22-9 (Fonofos); 959-98-8 (a-Endosulfan); 1563-66-2 (Carbofuran); 1912-24-9 (Atrazine); 2212-67-1 (Molinate); 2425-06-1 (Captafol); 2540-82-1 (Formothion); 2921-88-2 (Chlorpyriphos); 3424-82-6 (o,p'-Dde); 5598-13-0 (Methylchlorpyriphos); 7287-19-6 (Prometryne); 12672-29-6 (Aroclor 1248); 13593-03-8 (Quinalphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 24017-47-8 (Triazofos); 33213-65-9 (b-Endosulfan); 41198-08-7 (Profenofos) Role: POL (Pollutant), OCCU (Occurrence) (water pollution by, in Valencia Community, Spain) The natural water pollution in the Comunitat Valenciana, Spain, is caused mainly by pesticides from agricultural and industrial activities. The pesticide levels are generally below the established tolerance of the EC. [on SciFinder (R)] 0007-4861 pesticide/ natural/ water/ pollution/ Valencia/ Spain

1003. Piercy, David William Thomas (19840912). Pesticidal pour-on formulations. 19 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1984:624843
Chemical Abstracts Number: CAN 101:224843
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: BAXXDU
Index Terms: Pyrethrins and Pyrethroids Role: BIOL (Biological study) (ectoparasiticidal pour-on formulations contg.); Esters Role: BIOL (Biological study) (from coconut, ectoparasiticidal pour-on formulations contg.); Glycerides Role: BIOL (Biological study) (C8-12, ectoparasiticidal pour-on formulations contg.); Parasiticides (ecto-, pour-on formulations)
CAS Registry Numbers: 52-85-7; 56-72-4; 56-81-5D; 60-57-1; 78-34-2; 97-17-6; 122-14-5; 299-84-3; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 1776-83-6; 2921-88-2; 4824-78-6; 14816-18-3; 26002-80-2; 31218-83-4; 33089-61-1; 39515-40-7; 51630-58-1; 52315-07-8; 52315-07-8; 52645-53-1; 52918-63-5; 66841-25-6; 66841-26-7; 68085-85-8; 68359-37-5; 69770-45-2 Role: BIOL (Biological study) (ectoparasiticidal pour-on formulations contg.)
Patent Application Country: Application: GB
Priority Application Country: GB
Priority Application Number: 83-4927
Priority Application Date: 19830222 Compns. contg. an active ingredient such as a pyrethyroid or an organophosphate and a carrier comprised of a glycol or glycerol ester of a C8-10 fatty acid, e.g., fractionated coconut oil, are ectoparasiticide pour-on formulations. Thus, in a field trial with

260 gilts, sows, and boars, topical application of 5 mL deltamethrin [52918-63-5] 1% in Miglyol 812 (fractionated coconut oil) effectively controlled light-moderate infestations of the pig louse (Haematopinus suis). No live lice were found at 10 and 42 days after treatment. No signs of clin. toxicity and no adverse effects were detected. [on SciFinder (R)] A01N025-02. ectoparasiticide/ pouron/ formulation;/ pesticide/ pouron/ formulation/ ectoparasite

1004. Pietz, R. I., Carlson, C. R Jr, Peterson, J. R., Zenz, D. R., and Lue-Hing, C. (1989). Application of Sewage Sludge and Other Amendments to Coal Refuse Material Iii. Effects on Percolate Water Composition. *J environ qual* 18: 174-179.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM LIME GYPSUM ACIDIC COAL REFUSE RECLAMATION GROUNDWATER WATER POLLUTION WASTE MANAGEMENT
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BIODEGRADATION
MESH HEADINGS: INDUSTRIAL MICROBIOLOGY
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Food and Industrial Microbiology-Biodegradation and Biodeterioration
LANGUAGE: eng

1005. Piirainen, S., Fine(acute)r, L., and Starr, M. (2002). Deposition and Leaching of Sulphate and Base Cations in a Mixed Boreal Forest in Eastern Finland. *Water, Air, and Soil Pollution, 133 (1-4) pp. 185-204, 2002*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0049-6979
Descriptors: Lysimeter
Descriptors: Mature forest
Descriptors: Percolate
Descriptors: Podzol
Descriptors: Throughfall
Abstract: Monthly fluxes of sulphate (SO<inf>4</inf>²⁻) and base cations (Ca²⁺, Mg²⁺, K⁺) were studied from 1993 to 1996 as precipitation passed through forest vegetation and surface soil layers in an area receiving low and declining levels of atmospheric sulphate pollution. The canopy was dominated by mature Norway spruce (Picea abies Karsten) and the soil was a podzol developed on glacial till material. The mean annual bulk deposition of SO<inf>4</inf>²⁻ collected in the open was 136 mol<inf>c</inf> ha⁻¹ and that of Ca²⁺, Mg²⁺ and K⁺ was 44, 11 and 25 mol<inf>c</inf> ha⁻¹, respectively. The annual total throughfall deposition of SO<inf>4</inf>²⁻ was 318 mol<inf>c</inf> ha⁻¹ and that of Ca²⁺, Mg²⁺ and K⁺ was 151, 64 and 181 mol<inf>c</inf> ha⁻¹, respectively. Sulphate was the dominant anion accompanying the base cations leached from the canopy. More than half (58%) of the annual total throughfall deposition of SO<inf>4</inf>²⁻ was retained by the O-horizon and only 15% leached from below the B-horizon. The annual leaching of Ca²⁺,

Mg²⁺ and K⁺ from below the B-horizon was 14, 25 and 9% of the annual total throughfall deposition, respectively. The transport of base cations through the soil was predominantely countered by SO<inf>4</inf>²⁻ anions.
72 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.13.5.1 ENVIRONMENTAL BIOLOGY: Pollution: Ozone, acid rain, heavy metals etc
Classification: 92.13.1.6 ENVIRONMENTAL BIOLOGY: Ecology: Interactions with environment
Subfile: Plant Science

1006. Pillidge, Christopher J., Collins, Lesley J., Ward, Lawrence J. H., Cantillon, Brenda M., Shaw, Brian D., Timmins, Marie J., Heap, Howard A., and Polzin, Kayla M. (2000). Efficacy of four conjugal lactococcal phage resistance plasmids against phage in commercial Lactococcus lactis subsp. cremoris cheese starter strains. *International Dairy Journal* 10: 617-625.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

The efficacy of four lactococcal phage resistance plasmids (pNP40, pMU1311, pDI60 and pKP100) against phage was assessed after their conjugal transfer to four commercial Lactococcus lactis subsp. cremoris cheese starter strains and to the plasmid-free strain L. lactis subsp. cremoris MG1363. In MG1363, only pNP40 conferred resistance to prolate phages c2 and 643. Highest levels of resistance to small isometric phages in MG1363 occurred when pNP40 was stacked together with pMU1311 or pDI60. In the four starter strains, the plasmids conferred varying levels of resistance to small isometric phages. Growth and acidification rates in milk of most transconjugants derived from the starter strains decreased, but this was not always due to loss of plasmid-encoded cell wall proteinase (lactocepin) activity. Only one transconjugant grew during repeated subculture in milk with addition of factory wheys containing phages. This and the presence of bacteriocins encoded on pMU1311 and pDI60 limited application of the plasmids to protect L. lactis subsp. cremoris starters against phages in industry. However, some of the plasmids could be useful in extending the industry life of starters where fast acid production is not required or where bacteriocin production is acceptable. Lactococcus lactis/ Cheese starter strains/ Phage resistance plasmids/ Conjugation http://www.sciencedirect.com/science/article/B6T7C-41Y85HX-4/2/62ac44056e0fdc4bd4cb2e2ea4a60988

1007. Pinnette, J. R., Giggey, M. D., Hendry, G. E., and Richardson, C. M. (1993). Moisture Balance of an Open Biofilter. *Compost science & utilization* 1: 8-22.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Control of moisture levels in biofilter media is critical to maintaining odor and/or VOC removal performance. Lack of moisture control is perhaps the most common cause of poor biofilter performance and premature media replacement. Moisture control can be provided by a combination of feed gas humidification and application of water to the media surface. When biofilters are used for control of odors in the exhaust air from sludge composting facilities, percolate through the media bed may have elevated levels of nitrate whose impact on groundwater quality should be addressed. The operative factors in design of a moisture control system for an open biofilter are illustrated for a facility where available water is limited and concerns exist over percolate impacts on groundwater.
MESH HEADINGS: HUMIDITY
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS

MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
KEYWORDS: External Effects-Humidity (1972-)
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
LANGUAGE: eng

1008. Pintore, Marco, Piclin, Nadege, Benfenati, Emilio, Gini, Giuseppina, and Chretien, Jacques R (2003). Database mining with adaptive fuzzy partition: Application to the prediction of pesticide toxicity on rats. *Environmental Toxicology and Chemistry* 22: 983-991.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:314496
Chemical Abstracts Number: CAN 139:145110
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Fuzzy logic (adaptive fuzzy partition; database mining with adaptive fuzzy partition with application to prediction of pesticide toxicity on rats); Databases; Pesticides (database mining with adaptive fuzzy partition with application to prediction of pesticide toxicity on rats); Algorithm (genetic; database mining with adaptive fuzzy partition with application to prediction of pesticide toxicity on rats); Structure-activity relationship (toxic; database mining with adaptive fuzzy partition with application to prediction of pesticide toxicity on rats)
CAS Registry Numbers: 50-29-3 (DDT); 52-68-6 (Trichlorfon); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 61-82-5 (Amitrole); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 78-48-8 (Tribufos); 82-68-8 (Quintozene); 84-65-1 (Anthraquinone); 86-50-0 (Azinphos methyl); 87-86-5 (Pentachlorophenol); 92-52-4 (Biphenyl); 93-65-2 (Mecoprop); 99-30-9 (Dicloran); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 123-33-1 (Maleic hydrazide); 133-06-2 (Captan); 137-26-8 (Thiram); 139-40-2 (Propazine); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 301-12-2 (Oxydemeton-methyl); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 467-69-6 (Flurenol); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 640-15-3 (Thiometon); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (EPTC); 834-12-8 (Ametryn); 886-50-0 (Terbutryn); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1014-69-3 (Desmetryn); 1071-83-6 (Glyphosate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1689-83-4 (Ioxynil); 1746-81-2 (Monolinuron); 1861-32-1 (Chlorthal dimethyl); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1918-00-9 (Dicamba); 1918-16-7 (Propachlor); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2164-08-1 (Lenacil); 2164-17-2 (Fluometuron); 2303-17-5 (Tri-allate); 2310-17-0 (Phosalone); 2439-01-2; 2540-82-1 (Formothion); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3060-89-7 (Metobromuron); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 3740-92-9 (Fenclorim); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0 (Chlorpyrifos-methyl); 5915-41-3 (Terbuthylazine); 7287-19-6 (Prometryn); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 13684-56-5 (Desmedipham); 14816-18-3 (Phoxim); 15165-67-0 (Dichlorprop-P); 15299-99-7 (Napropamide); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 16118-49-3 (Carbetamide); 16672-87-0 (Ethephon); 16752-77-5 (Methomyl); 17109-49-8 (Edifenphos); 17804-35-2 (Benomyl); 18181-80-1 (Bromopropylate); 18691-97-9 (Methabenzthiazuron); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazon); 19937-59-8 (Metoxuron); 21087-64-9

(Metribuzin); 22224-92-6 (Fenamiphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos ethyl); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24151-93-7 (Piperophos); 25057-89-0 (Bentazone); 25059-80-7 (Benazolin-ethyl); 25311-71-1 (Isofenphos); 26225-79-6 (Ethofumesate); 29091-05-2 (Dinitramine); 29232-93-7 (Pirimiphos methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos); 33089-61-1 (Amitraz); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33693-04-8 (Terbumeton); 34014-18-1 (Tebuthiuron); 34123-59-6 (Isoproturon); 34205-21-5 (Dimefuron); 34643-46-4 (Prothiofos); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35575-96-3 (Azamethiphos); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51235-04-2 (Hexazinone); 51338-27-3 (Diclofop-methyl); 52888-80-9 (Prosulfocarb); 53112-28-0 (Pyrimethanil); 54593-83-8 (Chlorethoxyfos); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55512-33-9 (Pyridate); 55814-41-0 (Mepronil); 56425-91-3 (Flurprimidol); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58810-48-3 (Ofurace); 59669-26-0 (Thiodicarb); 59682-52-9 (Fosamine); 59756-60-4 (Fluridone); 60168-88-9 (Fenarimol); 62924-70-3 (Flumetralin); 63729-98-6 (Flamprop M-methyl); 64249-01-0 (Anilofos); 64628-44-0 (Triflumuron); 64902-72-3 (Chlorsulfuron); 65907-30-4 (Furathiocarb); 66063-05-6 (Pencycuron); 66215-27-8 (Cyromazine); 67129-08-2 (Metazachlor); 67306-00-7 (Fenpropidin); 67747-09-5 (Prochloraz); 71283-80-2; 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 73250-68-7 (Mefenacet); 74115-24-5 (Clofentezine); 74223-64-6 (Metsulfuron-methyl); 74738-17-3 (Fenpiclonil); 76674-21-0 (Flutriafol); 77732-09-3 (Oxadixyl); 78587-05-0 (Hexythiazox); 79277-67-1 (Thifensulfuron); 79622-59-6 (Fluazinam); 79983-71-4 (Hexaconazole); 81335-37-7 (Imazaquin); 81777-89-1 (Clomazone); 82558-50-7 (Isoxaben); 83055-99-6 (Bensulfuron-methyl); 83164-33-4 (Diflufenican); 84087-01-4 (Quinclorac); 84332-86-5 (Chlozolinate); 84496-56-0 (Clomeprop); 86598-92-7 (Imibenconazole); 86763-47-5 (Propisochlor); 86811-58-7 (Fluazuron); 87237-48-7 (Haloxyfop ethoxyethyl); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 90717-03-6 (Quinmerac); 94593-91-6 (Cinosulfuron); 95465-99-9 (Cadusafos); 96182-53-5 (Tebupirimfos); 98730-04-2 (Benoxacor); 98886-44-3 (Fosthiazate); 99607-70-2 (Cloquintocet mexyl); 101200-48-0 (Tribenuron methyl); 103361-09-7 (Flumioxazin); 107534-96-3 (Tebuconazole); 111991-09-4 (Nicosulfuron); 112143-82-5 (Triazamate); 112281-77-3 (Tetraconazole); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 120068-37-3 (Fipronil); 120923-37-7 (Amidosulfuron); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 122453-73-0 (Chlorfenapyr); 122931-48-0 (Rimsulfuron); 130339-07-0 (Diflumetorim); 131341-86-1 (Fludioxonil); 133855-98-8 (Epoxiconazole); 135990-29-3 (Triflusulfuron); 136426-54-5 (Fluquinconazole); 138261-41-3 (Imidacloprid); 139528-85-1 (Metosulam); 153233-91-1 (Etoxazole); 162320-67-4 (SZI-121) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (database mining with adaptive fuzzy partition with application to prediction of pesticide toxicity on rats)

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Citations: 4) Nendza, M; Xenobiotica 1991, 21, 147
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Citations: 6) Hermens, J; Practical Applications of Quantitative Structure-Activity Relationships (QSAR) in Environmental Chemistry and Toxicology 1990, 263
Citations: 7) Marengo, E; Chemom Intell Lab Syst 1993, 19, 43
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Citations: 10) Ishibuchi, H; IEEE Transactions on Fuzzy Systems 1995, 3, 260
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Citations: 33) Davis, L; Handbook of Genetic Algorithms 1991
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Citations: 40) Pintore, M; Eur J Med Chem 2001, 36, 349
Citations: 41) Ros, F; SAR QSAR Environ Res 2000, 11, 281
Citations: 42) Audouze, K; Analusis 2000, 28, 625 A data set of 235 pesticide compds., divided into three classes according to their toxicity toward rats, was analyzed by a fuzzy logic procedure called adaptive fuzzy partition (AFP). This method allows the establishment of mol. descriptor/chem. activity relationships by dynamically dividing the descriptor space into a set of fuzzily partitioned subspaces. A set of 153 mol. descriptors was analyzed, including topol., physicochem., quantum mech., constitutional, and electronic parameters, and the most relevant descriptors were selected with the help of a procedure combining genetic algorithm concepts and a stepwise method. The ability of this AFP model to classify the three toxicity classes was validated after dividing the data set compds. into training and test sets, including 165 and 70 mols., resp. The exptl. class was correctly predicted for 76% of the test-set compds. Furthermore, the most toxic class, particularly important for real applications of the toxicity models, was correctly predicted in 86% of cases. Finally, a comparison between the results obtained by AFP and those obtained by other classic classification techniques showed that AFP improved the predictive power of the proposed models. [on SciFinder (R)] 0730-7268 database/ adaptive/ fuzzy/ partition/ algorithm/ pesticide/ toxicity

1009. Pitarch, E., Lopez, F. J., Serrano, R., and Hernandez, F (2001). Multiresidue determination of organophosphorus and organochlorine pesticides in human biological fluids by capillary gas chromatography. *Fresenius' Journal of Analytical Chemistry* 369: 502-509.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH, CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:157410
Chemical Abstracts Number: CAN 134:336815
Section Code: 4-1

Section Title: Toxicology
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Blood analysis; Capillary gas chromatography; Urine analysis (multiresidue detn. of organophosphorus and organochlorine pesticides in human biol. fluids by capillary gas chromatog.); Pesticides (organochlorine; multiresidue detn. of organophosphorus and organochlorine pesticides in human biol. fluids by capillary gas chromatog.); Pesticides (organophosphorus; multiresidue detn. of organophosphorus and organochlorine pesticides in human biol. fluids by capillary gas chromatog.)
CAS Registry Numbers: 50-29-3; 55-38-9 (Fenthion); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 86-50-0 (Azinphos-methyl); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl parathion); 309-00-2 (Aldrin); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 2921-88-2 (Chlorpyrifos); 3369-52-6 (Endosulfan ether); 33213-65-9 (b-Endosulfan) Role: ANT (Analyte), ANST (Analytical study) (multiresidue detn. of organophosphorus and organochlorine pesticides in human biol. fluids by capillary gas chromatog.)

Citations: 1) Aprea, C; Int Arch Occup Environ Health 1994, 66, 333
Citations: 2) Peyster, A; Arch Environ Health 1993, 48, 348
Citations: 3) Takamiya, K; Bull Environ Contam Toxicol 1994, 52, 190
Citations: 4) Miki, A; J Chromatogr A 1995, 718, 383
Citations: 5) Drevenkar, V; Anal Chim Acta 1994, 290, 277
Citations: 6) Hill, R; J Anal Toxicol 1995, 19, 323
Citations: 7) Chang, M; Bull Environ Contam Toxicol 1996, 56, 367
Citations: 8) Chang, M; Bull Environ Contam Toxicol 1995, 55, 29
Citations: 9) Anon; The Mammalian Metabolism of Agrochemicals 1995
Citations: 10) Namera, A; Forensic Sci Int 1997, 88, 125
Citations: 11) Ameno, K; J Anal Toxicol 1989, 13, 150
Citations: 12) Liu, J; Forensic Sci Int 1989, 41, 67
Citations: 13) Futagami, K; J Chromatogr B 1997, 704, 369
Citations: 14) Maroni, M; Arch Environ Contam Toxicol 1990, 19, 782
Citations: 15) Maddy, K; Toxicol Lett 1986, 33, 37
Citations: 16) Otero, R; J Chromatogr A 1997, 778, 87
Citations: 17) Waliszewski, S; Bull Environ Contam Toxicol 1991, 46, 803
Citations: 18) Gill, U; Chemosphere 1996, 32, 1055
Citations: 19) Pauwels, A; J Chromatogr B 1999, 723, 117
Citations: 20) Atuma, S; Bull Environ Contam Toxicol 1999, 62, 8
Citations: 21) Matos, C; J Chromatogr B 1998, 716, 147
Citations: 22) Bucholski, K; J Chromatogr A 1996, 754, 479
Citations: 23) Brock, J; J Anal Toxicol 1996, 20, 528
Citations: 24) Najam, A; JAOAC Int 1999, 82, 177
Citations: 25) Johnston, J; J High Resol Chromatogr 1997, 20, 405
Citations: 26) Guardino, X; J Chromatogr A 1996, 719, 141
Citations: 27) Suzuki, O; Forensic Sci Int 1990, 46, 169
Citations: 28) Kumazawa, T; Forensic Sci Int 1992, 54, 159
Citations: 29) Thompson, T; Chemosphere 1996, 33, 1515
Citations: 30) Angerer, J; J Chromatogr B 1997, 695, 217
Citations: 31) Martinez Vidal, J; J Chromatogr B 1998, 719, 71
Citations: 32) Lopez, F; J Chromatogr A 1998, 823, 25
Citations: 33) Hernandez, F; Chromatographia 1993, 37, 303
Citations: 34) Hernandez, F; Chromatographia 1996, 42, 151
Citations: 35) Chang, R; Anal Chem 1993, 65, 2420

Two multiresidue anal. methods for the simultaneous detn. of organophosphorus and organochlorine pesticides in human urine and serum samples are described. The first approach is based on liq.-liq. microextn. with dichloromethane, and the second uses solid-phase extn. with C18. In both methods, the exts. are analyzed by capillary gas chromatog. using nitrogen-phosphorus detection (NPD) and electron-capture detection (ECD). Limits of detection of the overall procedure of anal. are at the low ng mL-1 level. Stability expts. have been performed with spiked urine and serum samples stored at 4 DegC for 1 mo. Finally, the solid-phase extn. procedure was applied to real-world samples. Quantification was performed by NPD or ECD, and peak identity was confirmed by use of mass-selective detection (MSD). [on SciFinder (R)] 0937-0633 pesticide/ urine/ blood/ gas/ chromatog

1010. Pitarch, E., Serrano, R., Lopez, F. J., and Hernandez, F (2003). Rapid multiresidue determination of organochlorine and organophosphorus compounds in human serum by solid-phase extraction and gas chromatography coupled to tandem mass spectrometry. *Analytical and Bioanalytical Chemistry* 376: 189-197.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH, CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2003:366419
Chemical Abstracts Number: CAN 139:225591
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; organochlorine and organophosphorus compds. in human serum detd. by solid-phase extn. and GC-MS-MS); Gas chromatography (mass spectrometry combined with; organochlorine and organophosphorus compds. in human serum detd. by solid-phase extn. and GC-MS-MS); Blood analysis; Blood serum; Human; Tandem mass spectrometry (organochlorine and organophosphorus compds. in human serum detd. by solid-phase extn. and GC-MS-MS); Pesticides (organochlorine; organochlorine and organophosphorus compds. in human serum detd. by solid-phase extn. and GC-MS-MS); Pesticides (organophosphorus; organochlorine and organophosphorus compds. in human serum detd. by solid-phase extn. and GC-MS-MS); Extraction (solid-phase; organochlorine and organophosphorus compds. in human serum detd. by solid-phase extn. and GC-MS-MS)
CAS Registry Numbers: 50-29-3; 58-89-9 (Lindane); 71-43-2D (Benzene); 72-54-8; 72-55-9; 92-52-4D (1,1'-Biphenyl); 118-74-1 (HCB); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl parathion); 319-85-7 (b-HCH); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1031-07-8 (Endosulfan sulfate); 2921-88-2 (Chlorpyrifos); 3369-52-6 (Endosulfan ether); 7012-37-5 (PCB 28); 31508-00-6 (PCB 118); 33213-65-9 (b-Endosulfan); 35065-27-1 (PCB 153); 35065-28-2 (PCB 138); 35065-29-3 (PCB 180); 35693-99-3 (PCB 52); 37680-73-2 (PCB 101) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (organochlorine and organophosphorus compds. in human serum detd. by solid-phase extn. and GC-MS-MS)
Citations: 1) Atuma, S; Bull Environ Contam Toxicol 1999, 62, 8
Citations: 2) Najam, A; J AOAC Int 1999, 82, 177
Citations: 3) Garrido, F; J Mass Spectrom 2000, 35, 967
Citations: 4) Martinez, V; Rapid Commun Mass Spectrom 2000, 14, 939
Citations: 5) Pitarch, E; Fresenius J Anal Chem 2001, 369, 502
Citations: 6) Moreno, F; J Chromatogr B 2001, 760, 1
Citations: 7) Singh, A; J Chromatogr B 1998, 706, 231
Citations: 8) Martinez, V; J Chromatogr B 1998, 719, 71
Citations: 9) Arrebola, F; Toxicol Letters 1999, 107, 15
Citations: 10) Lacassie, E; J Chromatogr B 2001, 759, 109
Citations: 11) Pauwels, A; J Chromatogr B 1999, 723, 117
Citations: 12) Covaci, A; Anal Lett 2001, 34, 1449

Citations: 13) Covaci, A; Chemosphere 2001, 43, 439
Citations: 14) Otero, R; J Chromatogr A 1997, 778, 87
Citations: 15) To-Figueras, J; Environ Health Perspect 1997, 105, 78
Citations: 16) Matos, L; J Chromatogr B 1998, 716, 147
Citations: 17) Johnston, J; J High Resol Chromatogr 1997, 20, 405
Citations: 18) Aprea, C; J Chromatogr B 2002, 469, 191
Citations: 19) Hill, R; J Anal Toxicol 1995, 19, 323
Citations: 20) Beeson, M; Anal Chem 1999, 71, 3526
Citations: 21) Gamon, M; J AOAC Int 2001, 84, 1209
Citations: 22) Hong, S; J Chromatogr A 1998, 822, 253
Citations: 23) Mezcua, M; Chromatographia 2002, 56(3-4), 199
Citations: 24) Menone, M; Arch Environ Contam Toxicol 2000, 38, 202
Citations: 25) Andersen, G; Sci Total Environ 2001, 264, 267
Citations: 26) Beltran, J; Chromatographia 2001, 54, 757
Citations: 27) Hernandez, F; J Chromatogr B 2002, 769, 65
Citations: 28) Hernandez, F; J Anal Toxicol 2002, 26, 94
Citations: 29) Hernandez, F; Chromatographia 2002, 55, 715
Citations: 30) To-Figueras, J; Environ Health Perspect 1997, 105, 78
Citations: 31) Otero, R; J Chromatogr A 1997, 778, 87 A rapid anal. method for the multiresidue detn. of several organochlorine and organophosphorus pesticides and polychlorinated biphenyls in human serum samples was developed. Analytes were isolated by solid-phase extn. using C18 cartridges with subsequent anal. by GC-MS/MS using a glass liner packed with CarboFrit in the GC injection port. Labeled surrogate internal stds. (fenitrothion D6, HCB 13C6,p,p'-DDE D8 and PCB 138 13C12) were added to the samples before the extn. and were used for quantitation and for quality control in the anal. of real-world samples. Accuracy and precision were evaluated by serum samples fortified at 2 concn. levels for the 3 families of compds., with satisfactory results in the majority of cases. The high selectivity and sensitivity of GC-MS/MS allowed low detection limits of 0.05-0.5 ng mL-1 for most of the analytes investigated. The developed procedure improves other current methodologies for the anal. of pesticides and PCBs in biol. fluids, esp. as regards to anal. time and simplicity of sample treatment. The method was applied to several serum samples obtained from farmers devoted to citrus crop prodn. Chlorpyrifos, HCB,p,p'-DDE and the higher chlorinated PCBs (153, 138 and 180) were the most frequently detected compds. [on SciFinder (R)] 1618-2642 organochlorine/ organophosphorus/ compd/ blood/ analysis/ GC/ tandem/ MS

1011. Pitt, Leland S. and Large, George B (19780207). Substituted vinyl thiophosphate activators. 5 pp.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1978:147512
Chemical Abstracts Number: CAN 88:147512
Section Code: 5-4
Section Title: Agrochemicals
CA Section Cross-References: 25
Coden: USXXAM
Index Terms: Insecticides (activators of, vinyl thiophosphates as)
CAS Registry Numbers: 732-11-6 Role: AGR (Agricultural use), BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticide, vinyl thiophosphates as activators of); 66177-25-1P; 66177-26-2P; 66177-27-3P; 66177-28-4P; 66177-29-5P; 66177-30-8P; 66208-94-4P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of, as insecticide activator); 5211-62-1; 14123-60-5 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with dimethylchloridophosphorothioate); 2524-03-0 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with substituted phenyl acetones)
Patent Application Country: Application: US The title compds. I (R = Cl, CF3, OMe,

methylenedioxy; R1 and R2 can be same or different and = C1-14 alkyl) are insecticide activators. Thus, insecticidal activity as LD50 values were demonstrated against houseflies, tobacco budworm, cabbage looper, etc., by the toxicant N-(mercaptomethyl)phthalimide S-(O,O-dimethylphosphorodithioate) [732-11-6] and 7 activators whose synthesis is given. [on SciFinder (R)] A01N009-36. thiophosphate/ vinyl/ activator/ insecticide

1012. Plapp, Frederick W. Jr. and Casida, John E (1969). Genetic control of housefly NADPH-dependent oxidases: relation to insecticide chemical metabolism and resistance. *Journal of Economic Entomology* 62: 1174-9.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1969:522806
Chemical Abstracts Number: CAN 71:122806
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Houseflies (insecticide resistance of, genetics of reduced nicotinamide adenine dinucleotide phosphate oxidases in); Genetics (of reduced nicotinamide adenine dinucleotide phosphate oxidases of housefly, insecticide resistance in relation to)
CAS Registry Numbers: 9032-22-8 (Oxidases, reduced nicotinamide adenine dinucleotide phosphate) (housefly insecticide resistance in relation to, genetics of); 50-29-3; 114-26-1; 121-75-5; 122-14-5; 309-00-2; 333-41-5; 584-79-2; 732-11-6; 944-22-9 Role: BIOL (Biological study) (housefly resistance to, genetics of) Studies with 9 insecticides established that gene(s) on autosome 2 in one resistant housefly, Musca domestica, strain (R-Baygon) and on autosome 5 in another (R-Fc) control the level of activity of NADPH-dependent oxidases which detoxify certain chlorinated hydrocarbon, pyrethroid, organophosphate, and methylcarbamate insecticides. Resistance to several of these insecticides in each strain is conferred, in part, by gene(s) on the same autosome as that conferring high oxidase activity. Apparently, a small no. of mutants in the housefly control the level of oxidative metabolism of many insecticides and a portion of the resistance to them. [on SciFinder (R)] 0022-0493 genetics/ housefly/ resistance/ insecticides;/ houselfy/ insecticides/ resistance/ genetics;/ insecticides/ resistance/ housefly/ genetics;/ oxidases/ insecticides/ Musca;/ Musca/ oxidases/ insecticides

1013. Podhorniak, L. V., Negron, J. F., and Griffith, F. D. Jr (Gas Chromatography With Pulsed Flame Photometric Detection Multiresidue Method for Organophosphate Pesticide and Metabolite Residues at the Parts-Per-Billion Level in Representatives Commodities of Fruits and Vegetable Crop Groups. *J aoac int. 2001 may-jun; 84(3):873-90. [Journal of aoac international]: J AOAC Int*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: A gas chromatographic method with a pulsed flame photometric detector (P-FPD) is presented for the analysis of 28 parent organophosphate (OP) pesticides and their OP metabolites. A total of 57 organophosphates were analyzed in 10 representative fruit and vegetable crop groups. The method is based on a judicious selection of known procedures from FDA sources such as the Pesticide Analytical Manual and Laboratory Information Bulletins, combined in a manner to recover the OPs and their metabolite(s) at the part-per-billion (ppb) level. The method uses an acetone extraction with either miniaturized Hydromatrix column partitioning or alternately a miniaturized methylene dichloride liquid-liquid partitioning, followed by solid-phase extraction (SPE) cleanup with graphitized carbon black (GCB) and PSA cartridges. Determination of residues is by programmed temperature capillary column gas chromatography fitted with a P-FPD set in the phosphorus mode. The method is designed so that a set of samples can be prepared in 1 working day for overnight instrumental analysis. The recovery data indicates that a daily column-cutting procedure used in combination with the SPE extract cleanup effectively reduces matrix

enhancement at the ppb level for many organophosphates. The OPs most susceptible to elevated recoveries around or greater than 150%, based on peak area calculations, were trichlorfon, phosmet, and the metabolites of dimethoate, fenamiphos, fenthion, and phorate.
MESH HEADINGS: Acetone
MESH HEADINGS: Chromatography, Gas/*methods
MESH HEADINGS: Fruit/*chemistry
MESH HEADINGS: Indicators and Reagents
MESH HEADINGS: Insecticides/*analysis
MESH HEADINGS: Pesticide Residues/*analysis
MESH HEADINGS: Phosmet/analysis
MESH HEADINGS: Trichlorfon/analysis
MESH HEADINGS: Vegetables/*chemistry
LANGUAGE: eng

1014. Podhorniak, Lynda V., Negron, Juan F., and Griffith, Francis D. Jr (2001). Gas chromatography with pulsed flame photometric detection multiresidue method for organophosphate pesticide and metabolite residues at the parts-per-billion level in representative commodities of fruit and vegetable crop groups. *Journal of AOAC International* 84: 873-890.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2001:462619
Chemical Abstracts Number: CAN 135:179862
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Apple; Blackberry; Carrot; Cranberry; Grape; Lettuce; Peach; Strawberry; Tomato (gas chromatog. with pulsed flame photometric detection for organophosphate pesticide and metabolite residues in); Crop; Fruit; Vegetable (gas chromatog. with pulsed flame photometric detection for organophosphate pesticide and metabolite residues in representative); Food contamination (gas chromatog. with pulsed flame photometric detection for organophosphate pesticide and metabolite residues in representative fruit and vegetable crops); Food analysis (gas chromatog. with pulsed flame photometric detection for organophosphate pesticide and metabolite residues in representative fruit and vegetable crops in); Pesticides (organophosphate; gas chromatog. with pulsed flame photometric detection for, in representative fruit and vegetable crops); Extraction (solid-phase; gas chromatog. with pulsed flame photometric detection for organophosphate pesticide and metabolite residues in representative fruit and vegetable crops); Mandarin orange (tangerine; gas chromatog. with pulsed flame photometric detection for organophosphate pesticide and metabolite residues in); Gas chromatography (with pulsed flame photometry; for organophosphate pesticide and metabolite residues in representative fruit and vegetable crops)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 78-34-2 (Dioxathion); 78-48-8 (DEF); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 311-45-5; 321-54-0 (Coumaphos oxon); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 944-22-9 (Fonofos); 950-35-6; 950-37-8 (Methidathion); 961-22-8 (Azinphos-methyl oxon); 962-58-3 (Diazinon oxon); 1113-02-6 (Dimethoate oxon); 1634-78-2 (Malathion oxon); 2310-17-0 (Phosalone); 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2588-05-8 (Phorate oxon sulfoxide); 2588-06-9 (Phorate oxon sulfone); 2600-69-3 (Phorate oxon); 2921-88-2 (Chlorpyrifos); 3735-33-9 (Phosmet oxon); 3761-41-9 (Fenthion sulfoxide); 3761-42-0 (Fenthion sulfone); 5598-15-2 (Chlorpyrifos oxon); 6552-12-1 (Fenthion oxon); 6552-13-2 (Fenthion oxon sulfoxide); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 13194-48-4 (Ethoprop); 14086-35-2 (Fenthion oxon sulfone); 17356-42-2 (Ethion monooxon); 22224-92-6 (Fenamiphos);

22248-79-9 (Gardona); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 31120-85-1 (Isofenphos oxon); 31972-43-7 (Fenamiphos sulfoxide); 31972-44-8 (Fenamiphos sulfone); 35400-43-2 (Sulprofos); 41198-08-7 (Profenofos); 86762-25-6; 355808-06-9 Role: ANT (Analyte), OCU (Occurrence, unclassified), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (gas chromatog. with pulsed flame photometric detection for, in representative fruit and vegetable crops)
Citations: 1) McMahon, B; Pesticide Analytical Manual, Vol I, 3rd Ed, sec 302 1994, E1
Citations: 2) Luke, M; J Assoc Off Anal Chem 1975, 58, 1020
Citations: 3) Saxton, W; Laboratory Information Bulletin, No 2585 1981
Citations: 4) Palmer, R; Laboratory Information Bulletin, No 3613 1991
Citations: 5) Erney, D; J Chromatogr 1993, 638, 57
Citations: 6) Schenck, F; Laboratory Information Bulletin, No 4140 1998
Citations: 7) Schenck, F; J Chromatogr A 2000, 868, 51
Citations: 8) Worthing, C; The Pesticide Manual, 7th Ed 1983
Citations: 9) Wylie, P; J AOAC Int 1996, 79, 571 A gas chromatog. method with a pulsed flame photometric detector (P-FPD) is presented for the anal. of 28 parent organophosphate (OP) pesticides and their OP metabolites. A total of 57 organophosphates were analyzed in 10 representative fruit and vegetable crop groups. The method is based on a judicious selection of known procedures from FDA sources such as the Pesticide Anal. Manual and Lab. Information Bulletins, combined in a manner to recover the OPs and their metabolite(s) at the part-per-billion (ppb) level. The method uses an acetone extn. with either miniaturized Hydromatrix column partitioning or alternately a miniaturized methylene dichloride liq.-liq. partitioning, followed by solid-phase extn. (SPE) cleanup with graphitized carbon black (GCB) and PSA cartridges. Detn. of residues is by programmed temp. capillary column gas chromatog. fitted with a P-FPD set in the phosphorus mode. The method is designed so that a set of samples can be prepd. in 1 working day for overnight instrumental anal. The recovery data indicates that a daily column-cutting procedure used in combination with the SPE ext. cleanup effectively reduces matrix enhancement at the ppb level for many organophosphates. The OPs most susceptible to elevated recoveries around or greater than 150%, based on peak area calcns., were trichlorfon, phosmet, and the metabolites of dimethoate, fenamiphos, fenthion, and phorate. [on SciFinder (R)] 1060-3271 organophosphate/ pesticide/ detn/ fruit/ vegetable/ gas/ chromatog

1015. Podstavkova, S., Miadokova, E., Vlcek, D., and Jablonicka, A. (1991). Study on Mutagenic Activity of Fosmet and Solvent Mixture Applied to Bacterial Strains of Salmonella Typhimurium. *Acta fac rerum nat univ comenianae genet* 0: 5-12.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Both toxic and mutagenic effect of fosmet as an active component of the organophosphate insecticide Decemtion EK-20 and a solvent mixture was tested on five bacterial strains in S. typhimurium (TA 1535, TA 100, TA 1538, TA 98, TA 97). Within the concentrations ranging from 100 up to 2000 mugetri dish fosmet did not exhibit any toxic effect whereas the solvent mixture used within the range of 2 up to 10 mul/Petri dish was very toxic. Fosmet revealed to be a direct mutagen inducing base substitution (strain TA 100) and frameshift mutations (strain TA 97) on molecular level. Solvent mixture did not exhibit any mutgenic effect on S. typhimurium. Based on the results obtained the authors do not recommend to use Decemtion EK-20 in agricultural practice.
MESH HEADINGS: GENETICS
MESH HEADINGS: CYTOGENETICS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: NUCLEIC ACIDS
MESH HEADINGS: PURINES
MESH HEADINGS: PYRIMIDINES
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: POISONING

MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: BACTERIA/GENETICS
MESH HEADINGS: VIRUSES/GENETICS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ENTEROBACTERIACEAE
KEYWORDS: Genetics and Cytogenetics-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Nucleic Acids
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Toxicology-General
KEYWORDS: Genetics of Bacteria and Viruses
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: eng

1016. Pommer, G. and Lepschy, J. (Studies on the Contents of Winter Wheat and Carrots Produced and Marketed in Various Fashions. *Bayer landwirtsch jahrb; 62 (5). 1985 (recd. 1986). 549-564.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ORGANIC AGRICULTURE CONVENTIONAL PRODUCTION CHLORINATED HYDROCARBON RESIDUE HEAVY METAL CONTENT NUTRITION CONTENT
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: VITAMINS
MESH HEADINGS: LIPIDS
MESH HEADINGS: CARBOHYDRATES
MESH HEADINGS: MINERALS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: CEREALS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/CHEMISTRY
MESH HEADINGS: CEREALS
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: VEGETABLES
MESH HEADINGS: GRASSES
MESH HEADINGS: PLANTS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Vitamins

KEYWORDS: Biochemical Studies-Lipids
KEYWORDS: Biochemical Studies-Carbohydrates
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Food Technology-General
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Cereal Chemistry
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Food Technology-Preparation
KEYWORDS: Toxicology-Foods
KEYWORDS: Plant Physiology
KEYWORDS: Agronomy-Grain Crops
KEYWORDS: Horticulture-Vegetables
KEYWORDS: Pest Control
KEYWORDS: Gramineae
KEYWORDS: Umbelliferae
LANGUAGE: ger

1017. Pompon, A. , Chungue, E., Chazelet, I., and Bagnis, R. (1984). Ciguatera: a Rapid, Simple and Reliable Method for Detecting Ciguatoxin. *Bulletin of The World Health Organization [BULL. W.H.O.]. Vol. 62, no. 4, pp. 639-646. 1984.*
Chem Codes: Chemical of Concern: PSM Rejection Code: BIOLOGICAL TOXICANT.

Original Title: Ciguatera: une methode rapide, simple et fiable de detection de la ciguatoxine
ISSN: 0043-9686
Descriptors: Article Subject Terms: bioassays
Descriptors: toxicity
Descriptors: Article Taxonomic Terms: Gambierdiscus toxicus
Descriptors: Aedes aegypti
Descriptors: Culicidae
Abstract: A rapid biological method of determining ciguatoxicity (by a mosquito test) is described. An 8 g sample of raw fish is ground up and homogenized in acetone. After centrifugation, the supernatant is concentrated, allowed to percolate through a filter cartridge containing infusorial earth and rapidly chromatographed on silica. The amount of liposoluble residue obtained is 1.0 plus or minus 0.2 mg, irrespective of the fish species and toxicity. The toxicity of the extracts is measured by means of a technique based on the sensitivity of Aedes aegypti mosquitos to ciguatoxin, in which nine batches of ten mosquitos are injected intrathoracically with these extracts at different dilutions.
Language: French
English; French
Publication Type: Journal Article
Classification: K 03039 Algae
Classification: A 01023 Others
Classification: Z 05156 Techniques
Classification: Z 05183 Toxicology & resistance
Subfile: Entomology Abstracts; Microbiology Abstracts A: Industrial & Applied Microbiology; Microbiology Abstracts C: Algology, Mycology & Protozoology

1018. Popov, P. V., Shapovalova, G. K., Abelentseva, G. M., and Sedykh, A. S. (O Vliyanii Fungitsidov Na Toksichnost' Insektitsidov. [Effect of Fungicides on the Toxicity of Insecticides.]. *Khim. Sel'sk. Khoz. 18(9): 36-37 1980 (2 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON ENGLISH.

ABSTRACT: PESTAB. The toxicity of binary mixtures of insecticides [valexon (phoxim), pyrimiphos-methyl, phosalone, phthalophos (phosmet), TsGA 18809, benzophosphate and trichlorfon] with fungicides [zineb, copper chloroxide (copper-oxychloride), polycarbazine and BMC] was studied in houseflies by determining the LC40 during the 24 hr period following

topical application of a benzene solution. The ratio of the insecticide to the fungicide in the mixture was 1:1.25 relative to the active ingredients. The fungicides caused no significant changes in the toxicity of the insecticides. The phytotoxicity of the fungicides was not increased by the insecticides.
LANGUAGE: rus

1019. Popov, P. V., Shapovalova, G. K., and Galitsina, V. V. (Rezistentnost' N-Sekomykh H Dikhlorvosu I Khlorofosu. [Resistance of Insects to Dichlorvos and Chlorophos.]. *Khim. Sel'sk. Khoz. 17(8): 59-61 1979 (3 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The development of resistance and cross-resistance was studied in 75 consecutive generations of houseflies exposed to dichlorvos vapors for 20-60 sec or to liquid dichlorvos applied to the skin. The first generation was originally sensitive. The resistance factor, expressed as LD50, increased from 1 in the first generation to 5.1 in F14 and to 6.8 in F75 in the experiments in which dichlorvos vapors were used. The resistance, expressed a the 50% knock-down concentration, rose from 1 to 8.8 in F75. The cross-resistance to chlorophos was 1 in F1, reaching its highest value (> 230) in F35, and declining to > 63 in F75. The flies also developed cross-resistance to diazinon, carbophos (malathion), phthalophos (phosmet), gardona (tetrachlorvinphos), benzophosphate, propoxur, phenetcarb, lindane, fenitrothion, neopinamin (phtaltrin), valaxon (phoxim), permetryne, and Co-Ral (coumaphos). In the experiments in which dichlorvos was applied on the cuticle, the resistance increased from 1 in F1 to 6 in F22 and the cross-resistance to chlorophos (trichlorfon) increased from 1 to 112, respectively, (expressed as LD50).
LANGUAGE: rus

1020. Porschke, Dietmar (1987). Electric, optical and hydrodynamic parameters of lac repressor from measurements of the electric dichroism High permanent dipole moment associated with. *Biophysical Chemistry* 28: 137-147.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Lac repressor and its tryptic core have been investigated by electro-optical methods. The reduced dichroism measured as a function of the electric field strength is not consistent with an induced dipole, but indicates the existence of a strong permanent dipole moment (~ 4 x 10-27 C m) for the holo-repressor, which is almost independent of ion concentration and pH. A dominant contribution of a permanent dipole is also demonstrated by the shape of the dichroism rise curve. The experimental data are not consistent with a counterion polarization phenomenon and also do not indicate a major contribution from proton fluctuations. Probably the nature of the dipole is similar to that found for compounds with a tetrahedral substitution by angular residues. Other potential models involve large conformational fluctuations or inherent asymmetry of the lac repressor. Rotation time constants obtained from the dichroism decay are not consistent with a spherical shape, for either the holo- and or core repressor. A simple interpretation of the data by prolate ellipsoids suggests a short diameter of 6 nm for both holo- and core repressor and long diameters of 14 and 12 nm for holo- and core repressor, respectively. Addition of the inducer isopropyl-[beta]--thiogalactopyranoside leads to a change of the limit dichroism, but does not affect the rotation time constants within experimental accuracy. Dipole moment/ Linear dichroism/ Lac repressor/ Rotational relaxation http://www.sciencedirect.com/science/article/B6TFB-44FDTBD-3G/2/48d06753bc4720fc308e6837396ed5a4

1021. Potenberg, J., Von, D. E. R. Hude W, Bauszus, M., Basler, A., and Kahl, R. (1988). Enhancement and Inhibition of Benzo(a)Pyrene-Induced Sos Function in Escherichia Coli by Synthetic Antioxidants. *Mutat res* 207: 7-12.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. 8 antioxidants were tested in the SOS chromotest for induction of SOS function and for modulation of benzo(alpha)pyrene-induced SOS

function. None of the antioxidants leads to increased beta-galactosidase activity by itself. Butylated hydroxytoluene at concentrations between 10-5 M and 3t benzo(alpha)pyrene concentrations between 10-6 M and 3 M Butylated hyroxyanisole, ethoxyquin, propyl gallate and octyl gallate also slightly enhance benzo(alpha)pyrene induced SOS function at concentrations up to 3degree than butylated hydroxytoluene. Dodecyl gallate, vitamin C and alpha-tocopherol do not increase benzo(alpha)pyrene action. In concentrations exceeding 3dants tested but not vitamin C and alpha-tocopherol decrease beta-galactosidase activity both in the absence and, more extensively, in the presence of benzo(alpha)pyrene. Preliminary data suggest that the appa suppression of benzo(alpha)pyrene-induced SOS function is not due to an effect on the formation of benzo(alpha)py
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: GENETICS
MESH HEADINGS: CYTOGENETICS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: METABOLISM
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: BACTERIA/GENETICS
MESH HEADINGS: VIRUSES/GENETICS
MESH HEADINGS: ENTEROBACTERIACEAE
KEYWORDS: Cytology and Cytochemistry-General
KEYWORDS: Genetics and Cytogenetics-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Metabolism-General Metabolism
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: Genetics of Bacteria and Viruses
KEYWORDS: Enterobacteriaceae (1979-)
LANGUAGE: eng

1022. Pottinger, R. P. (Keeping Kiwifruit Clean. *N. Z. J. Agric. 141(1): 49-51 1980*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: PESTAB. Studies are underway to improve the spraying of kiwifruit in order that the growers of the crop will not be deprived of foreign markets due to residue levels of pesticides on their products. Tolerance levels in various countries for gusathion (azinphos-methyl), imidan (phosmet), or benlate (benomyl) are discussed. The levels differ for various countries, but the process used for setting the levels generally involves testing for acute toxicity, short-term effects, genetic mutations, carcinogenic properties, reproductive effects, abnormal growth, biochemical aspects, metabolism and long-term effects in man. Factors which affect the quantity of residues remaining on the crop include application and method, size and surface characteristics of the fruit, pesticide persistence, and residue location. Based on results of studies performed on the kiwifruit, additional fruits are being examined including blackcurrants, blueberries, feijoas, avocados and passionfruit, and apples and boysenberries. As improvement occurs in the management of plant pests, new spraying schedules will be introduced to more effectively meet the residue requirements of various importing countries.

1023. Poulsen, M. E. and Granby, K (2000). Validation of a multi-residue method for analysis of pesticides in fruit, vegetables and cereals by a GC/MS iontrap system. *Special Publication - Royal Society of Chemistry* 256: 108-119.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2000:786878
Chemical Abstracts Number: CAN 134:192411
Section Code: 17-1

Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; validation of multi-residue method for detn. of pesticides in fruit, vegetables and cereals by GC/MS iontrap system); Gas chromatography (mass spectrometry combined with; validation of multi-residue method for detn. of pesticides in fruit, vegetables and cereals by GC/MS iontrap system); Pesticides (organochlorine; validation of multi-residue method for detn. of pesticides in fruit, vegetables and cereals by GC/MS iontrap system); Pesticides (organophosphorus; validation of multi-residue method for detn. of pesticides in fruit, vegetables and cereals by GC/MS iontrap system); Pyrethrins Role: ANT (Analyte), ANST (Analytical study) (pyrethroids; validation of multi-residue method for detn. of pesticides in fruit, vegetables and cereals by GC/MS iontrap system); Vegetable (salad; validation of multi-residue method for detn. of pesticides in fruit, vegetables and cereals by GC/MS iontrap system); Apple; Avocado; Carrot; Food analysis; Fruit; Ion trap mass spectrometry; Pesticides; Plant analysis; Potato; Wheat (validation of multi-residue method for detn. of pesticides in fruit, vegetables and cereals by GC/MS iontrap system)
CAS Registry Numbers: 50-29-3; 56-38-2 (Parathion); 58-89-9 (g-HCH); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 82-68-8 (Quintozene); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-42-9 (Propham); 133-07-3 (Folpet); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 299-84-3 (Fenchlorphos); 309-00-2 (Aldrin); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 327-98-0 (Trichloronate); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 510-15-6 (Chlorbenzylate); 527-20-8 (Pentachloroaniline); 563-12-2 (Ethion); 608-93-5 (Pentachlorobenzene); 640-15-3 (Thiometon); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1563-66-2 (Carbofuran); 1825-21-4 (Pentachloroanisole); 1897-45-6; 2104-96-3 (Bromophos); 2227-13-6 (Tetrasul); 2310-17-0 (Phosalone); 2597-03-7 (Phenthoate); 2921-88-2 (Chlorpyrifos); 3689-24-5 (Sulfotep); 4824-78-6 (Bromophos-ethyl); 5131-24-8 (Ditalimfos); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 10311-84-9 (Dialifos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23505-41-1 (Pirimiphos ethyl); 23560-59-0 (Heptenophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos methyl); 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 34643-46-4 (Prothiofos); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 61949-77-7 (trans-Permethrin); 67564-91-4 (Fenpropimorph); 82657-04-3 (Bifenthrin) Role: ANT (Analyte), ANST (Analytical study) (validation of multi-residue method for detn. of pesticides in fruit, vegetables and cereals by GC/MS iontrap system)
Citations: 1) Vingaard, A; Food Additives and Contaminants 1999, 12, 533
Citations: 2) Croten, J; Fundam and Appl Toxicol 1997, 36, 15
Citations: 3) Eu Commission Directive; concerning change of Directive 91/321/EOF about infant formula and infant food 1999, 1999/50/EF
Citations: 4) Sheridan, R; J of AOAC Int 1999, 82, 982
Citations: 5) Gelsomino, A; J of Chromatography A 1997, 782, 105
Citations: 6) Obana, H; Analyst 1999, 124, 1159
Citations: 7) Hill, A; Analyst 1999, 124, 953
Citations: 8) Juhler, R; J of AOAC Int 1999, 82, 337
Citations: 9) Andersen, J; Pesticide Residues in Fruits, Vegetables and Cereals in Denmark-1998 Report concerning directives 90/642/EEC, 86/362/EEC and Commission Recommendation 97/822/EC 1999
Citations: 10) Tomlin, C; The Pesticide Manual, 11th Ed 1998
Citations: 11) European Commission; Quality Control Procedures for Pesticide Residue Analysis-Guidelines for Residues Monitoring in the European Union 1997

Citations: 12) Anon; Accuracy (trueness and precision) of measurement methods and results - Part 2 First edition 1994, ISO 5725-2
Citations: 13) Horwitz, W; Anal Chem 1982, 54, 67A
Citations: 14) National Food Administration; European Commission's Proficiency Test on Pesticide Residues in Fruit and Vegetables, Test 3 1999 An iontrap GC/MS multimethod for pesticide analyses of fruits, vegetables and cereals was validated using the matrixes apple, avocado, carrot, potato, salad and wheat. Roughly 70 out of 82 pesticides were accepted as quant. and the mean recoveries and LODs were calcd. Among the remaining 12 pesticides some were found to be semi quant. Different results for the different matrixes necessitate the validation on several matrixes. Organohalogens and pyrethroids were not easy to detect on iontrap CC/MS with EI. However, using GC/MS with NCI the detection of these substances is expected to improve. [on SciFinder (R)] 0260-6291 pesticide/ detn/ food/ GC/ mass/ spectroscopy/ ion/ trap;/ fruit/ pesticide/ detn/ GC/ mass/ spectroscopy/ ion/ trap;/ vegetable/ pesticide/ detn/ GC/ mass/ spectroscopy/ ion/ trap;/ cereal/ pesticide/ detn/ GC/ mass/ spectroscopy/ ion/ trap

1024. Poulsen, T. G., M&Oslash, and Oldrup, P. (Factors Affecting Water Balance and Percolate Production for a Landfill in Operation. *Waste manag res. 2005, feb; 23(1):72-8. [Waste management & research : the journal of the international solid wastes and public cleansing association, iswa]: Waste Manag Res*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

ABSTRACT: Percolate production and precipitation data for a full-scale landfill in operation measured over a 13-year period were used to evaluate the impact and importance of the hydrological conditions of landfill sections on the percolate production rates. Both active (open) and closed landfill sections were included in the evaluation. A simple top cover model requiring a minimum of input data was used to simulate the percolate production as a function of precipitation and landfill section hydrology. The results showed that changes over time in the hydrology of individual landfill sections (such as section closure or plantation of trees on top of closed sections) can change total landfill percolate production by more than 100%; thus, percolate production at an active landfill can be very different from percolate production at the same landfill after closure. Furthermore, plantation of willow on top of closed sections can increase the evapotranspiration rate thereby reducing percolate production rates by up to 47% compared to a grass cover. This process, however, depends upon the availability of water in the top layer, and so the evaporation rate will be less than optimal during the summer where soil-water contents in the top cover are low.
MESH HEADINGS: Permeability
MESH HEADINGS: Rain
MESH HEADINGS: *Refuse Disposal
MESH HEADINGS: Salix/growth &amp
MESH HEADINGS: development
MESH HEADINGS: Soil
MESH HEADINGS: Soil Pollutants/*analysis
MESH HEADINGS: Volatilization
MESH HEADINGS: *Water Movements
MESH HEADINGS: Water Pollutants/*analysis
LANGUAGE: eng

1025. Powelson, D. K., Simpson, J. R., and Gerba, C. P. (1990). Virus Transport and Survival in Saturated and Unsaturated Flow Through Soil Columns. *J environ qual* 19: 396-401.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: VIRUS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Water with entrained disease-causing virus entering soil normally passes through water-saturated and unsaturated regions before reaching the groundwater. The effects of saturated and unsaturated flow on the survival and transport of a virus, MS-2 bacteriophage, were compared. The viruses were added to well water and applied to soil columns 0.052 m in diameter and 1.05 m long. The soil material was Vint loamy fine sand (a

sandy, mixed, hyperthermic Typic Torrifluvent) mixed with recent alluvium. Samples of the soil water were taken daily at 0.20, 0.40, and 0.80 m depths through porous stainless steel samplers and at 1.05 m from the percolate leaving the column. For saturated flow the virus concentrations reached the influent concentration is less than two pore volumes (PV). From unsaturated flow the concentrations remained at levels much lower than the influent, ranging from 27% of inflow at 0.20 m (18 PV) to 5% at 1.05 m (3.3 PV). At the end of the experiments soil sampl
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: MICROBIOLOGICAL TECHNIQUES
MESH HEADINGS: BACTERIOPHAGES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: DISEASE RESERVOIRS
MESH HEADINGS: SOIL MICROBIOLOGY
MESH HEADINGS: METHODS
MESH HEADINGS: PLANTS
MESH HEADINGS: SOIL
MESH HEADINGS: LEVIVIRIDAE
KEYWORDS: Ecology
KEYWORDS: Microbiological Apparatus
KEYWORDS: Virology-Bacteriophage
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Public Health: Disease Vectors-Inanimate
KEYWORDS: Soil Microbiology
KEYWORDS: Soil Science-General
KEYWORDS: Leviviridae (1981-)
LANGUAGE: eng

1026. Prevots, Fabien, Daloyau, Marlene, Bonin, Odile, Dumont, Xavier, and Tolou, Sandrine (1996). Cloning and sequencing of the novel abortive infection gene abiH of Lactococcus lactis ssp. lactis biovar. diacetylactis S94. *FEMS Microbiology Letters* 142: 295-299.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

A gene which encodes resistance by abortive infection (Abi+) to bacteriophage was cloned from Lactococcus lactis ssp. lactis biovar. diacetylactis S94. This gene was found to confer a reduction in efficiency of plating and plaque size for prolate-headed bacteriophage [phi]53 (group I of homology) and total resistance to the small isometric-headed bacteriophage [phi]59 (group III of homology). The cloned gene is predicted to encode a polypeptide of 346 amino acid residues with a deduced molecular mass of 41 455 Da. No homology with any previously described genes was found. A probe was used to determine the presence of this gene in two strains on 31 tested. Lactococcus lactis/ Phage resistance/ Abi http://www.sciencedirect.com/science/article/B6T2W-3W2YG0D-Y/2/89a0ff7ac88a26b82346687f739b4022

1027. Prevots, Fabien, Remy, Elisabeth, Mata, Mireille, and Ritzenthaler, Paul (1994). Isolation and characterization of large lactococcal phage resistance plasmids by pulsed-field gel electrophoresis. *FEMS Microbiology Letters* 117: 7-13.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Five phage-resistant Lactococcus lactis strains were able to transfer by conjugation the lactose-fermenting ability (Lac+) to a plasmid-free Lac- L. lactis strain. In each case, some Lac+ transconjugants were phage-resistant and contained one or two additional plasmids of high molecular mass, as demonstrated by pulsed-field gel electrophoresis. Plasmids pPF144 (144 kb), pPF107 (107 kb), pPF118 (118 kb), pPF72 (72 kb) and pPF66 (66 kb) were characterized: they are conjugative (Tra+), they confer a phage-resistant phenotype and they bear lactose-fermenting ability (Lactose plasmid) except for the last two. Plasmids pPF144, pPF107 and pPF118 resulted probably from a cointegrate formation between the Lactose plasmid and another plasmid of the donor strain, whereas pPF72, pPF66 and the Lactose plasmid were distinct in the corresponding transconjugants. Plasmids pPF72 and pPF66 produced a bacteriocin. At 30[degree sign]C, the phage resistance conferred by the plasmids was complete against small isometric-headed phage and partial against prolate-headed phage, except for pPF107 whose phage resistance mechanism was totally effective against both types of phages, but was completely inactivated at 40[degree sign]C. Restriction maps of four of the plasmids were constructed using pulsed-field gel electrophoresis. Lactococcus lactis/ Phage resistance/ Plasmids/ Pulsed-field gel electrophoresis http://www.sciencedirect.com/science/article/B6T2W-476W4DG-MB/2/241df429663d674894ae5ddf0ece26e4

1028. Prevots, Fabien, Tolou, Sandrine, Delpech, Bruno, Kaghad, Mourad, and Daloyau, Marlene (1998). Nucleotide sequence and analysis of the new chromosomal abortive infection gene abiN of Lactococcus lactis subsp. cremoris S114. *FEMS Microbiology Letters* 159: 331-336.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

A 7.275-kb DNA fragment which encodes resistance by abortive infection (Abi+) to bacteriophage was cloned from Lactococcus lactis subsp. cremoris S114. The genetic determinant for abortive infection was subcloned from this fragment. This gene was found to confer a reduction in efficiency of plating and plaque size for prolate-headed bacteriophage [phi]53 (group I homology) and for small isometric-headed bacteriophage [phi]59 (group III homology). This new gene, termed abiN, is predicted to encode a polypeptide of 178 amino acid residues with a deduced molecular mass of 20[punctuation space]461 Da and an isoelectric point of 4.63. No homology with any previously described genes was found. A probe was used to determine the presence of this gene only in S114 from 31 strains tested. Lactococcus lactis/ Phage resistance/ Abi http://www.sciencedirect.com/science/article/B6T2W-3S2BX18-Y/2/9400f04bc7f15b0cba50068acd1329a6

1029. Price, William S., Nara, Masayuki, and Arata, Yoji (1997). A pulsed field gradient NMR study of the aggregation and hydration of parvalbumin. *Biophysical Chemistry* 65: 179-187.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Pulsed field gradient NMR is a convenient alternative to traditional methods for measuring diffusion of biological macromolecules. In the present study, pulsed field gradient NMR was used to study the effects of calcium binding and hydration on carp parvalbumin. Carp parvalbumin is known to undergo large changes in tertiary structure with calcium loading. The diffusion coefficient is a sensitive guide to changes in molecular shape and in the present study the large changes in tertiary structure were clearly reflected in the measured diffusion coefficient upon calcium loading. The (monomeric) calcium-loaded form had a diffusion coefficient of 1.4 x 10-10 m2 s-1 at 298 K, which conforms with the structure being a nearly spherical prolate ellipsoid from X-ray studies. The calcium-free form had a significantly lower diffusion coefficient of 1.1 x 10-10 m2 s-1. The simplest explanation consistent with the change in diffusion coefficient is that the parvalbumin molecules form dimers upon the removal of Ca2+ at the protein concentration studied (1 mM). Aggregation/ Diffusion/ Hydration/ Parvalbumin/ Pulsed field gradient NMR http://www.sciencedirect.com/science/article/B6TFB-3S9T0P8-9/2/d2299b11d7a76ad0c98639d73c1085e6

1030. Prichard, D. L., Hogsette, J. A., Ruff, J. P., and Marshall, T. T. (1988). Effect of Stable and Horn Fly Populations on Weight Gains of Beef Cattle in Florida Usa. *Meeting of the american society of animal science (southern section), new orleans, louisiana, usa, january 31-february 3, 1988. J anim sci* 66: 21.
Chem Codes: Chemical of Concern: PSM Rejection Code: ABSTRACT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT LINTOX-D METHOXYCHLOR RA-VAP PROLATE CO-RAL DELTOX PESTICIDE DAIRY INDUSTRY CATTLE INDUSTRY
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ANIMAL
MESH HEADINGS: TOXICOLOGY
MESH HEADINGS: VETERINARY MEDICINE
MESH HEADINGS: CELL DIFFERENTIATION
MESH HEADINGS: FETAL DEVELOPMENT
MESH HEADINGS: MORPHOGENESIS
MESH HEADINGS: EMBRYOLOGY
MESH HEADINGS: ANIMAL HUSBANDRY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMALS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: DIPTERA
MESH HEADINGS: ARTIODACTYLA
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Veterinary Toxicology
KEYWORDS: Developmental Biology-Embryology-Morphogenesis
KEYWORDS: Animal Production-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Animal Pests
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Diptera
KEYWORDS: Bovidae
LANGUAGE: eng

1031. Prokopy, R. J. (1991). A Small Low-Input Commercial Apple Orchard in Eastern North America: Management and Economics. *Agric.Ecosyst.Environ.* 33: 353-362.
Chem Codes: Chemical of Concern: ALSV,PSM Rejection Code: MIXTURE.

1032. Prokopy, R. J., Jacome, I., Gray, E., Trujillo, G., Ricci, M., and Pinero, J. C. (2004). Using Odor-Baited Trap Trees as Sentinels to Monitor Plum curculio (Coleoptera: Curculionidae) in Apple Orchards. *J.Econ.Entomol.* 97: 511-517.
Chem Codes: Chemical of Concern: PSM,AZ Rejection Code: MIXTURE.

1033. Puponin, A. I. and Zakharenko, A. V. (1997). Theoretical and Practical Foundations of Regulating Weedy Component of Agrophytocenosis in Farming. *Izvestiya timiryazevskoi sel'skokhozyaistvennoi akademii* 0: 3-21.

<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. As a result of long-term investigations conducted in field stationary experiments, theoretical and practical foundations of regulating effect of farming system elements on weedy component of agrophytocenosis have been worked out. Regularities of variation in its quantitative and qualitative parameters under the effect of long-term (20-25 years) application of soil management systems of different intensiveness, fertilizer, herbicides are deter-mined. The main principles and stages in developing the system of weedy component control (SWCC) are theoretically substantiated. Ecotoxicological evaluation of regular application of herbicides to farm crops is given Agrotechnical and energetic efficiency of minimalization of the ground treatment and presowing soil treatment in crop rotations. of different specialization has been found.
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: GRASSES/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS
KEYWORDS: Agronomy-General
KEYWORDS: Agronomy-Weed Control
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Pest Control
KEYWORDS: Tracheophyta
LANGUAGE: rus

1034. Purdey, M (1998). High-dose exposure to systemic phosmet insecticide modifies the phosphatidylinositol anchor on the prion protein: the origins of new variant transmissible spongiform encephalopathies? *Medical Hypotheses* 50: 91-111.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: REVIEW.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1998:262779
Chemical Abstracts Number: CAN 128:318049
Section Code: 4-0
Section Title: Toxicology
Document Type: Journal; General Review
Language: written in English.
Index Terms: Phosphatidylinositols; Prion proteins Role: BSU (Biological study, unclassified), BIOL (Biological study)   (high-dose exposure to systemic phosmet insecticide modifies phosphatidylinositol anchor on prion protein and origins of new variant transmissible spongiform encephalopathy); Brain   (spongiform encephalopathy; high-dose exposure to systemic phosmet insecticide modifies phosphatidylinositol anchor on prion protein and origins of new variant transmissible spongiform encephalopathy)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study)   (high-dose exposure to systemic phosmet insecticide modifies phosphatidylinositol anchor on prion protein and origins of new variant transmissible spongiform encephalopathy)
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Citations: 104) Sly, J; Review of usage of pesticides in agriculture and horticulture in the UK; Report No 41 and 23 1985 A review and discussion with 104 refs. Compulsory exposure of the UK bovine to exclusively high biannual doses of a \"systemic\" pour-on formulation of an organo-phthalimido-phosphorus warblecide, phosmet, during the 1980s (combined with exposure to the lipid-bound residues of \"bioconcd.\" phosmet recycled back via the intensive feeding of meat and bone meal), initiated the \"new strain\" modification of the CNS prion protein (PrP) causing the UK's bovine spongiform encephalopathy (BSE) epidemic. A lipophilic soln. of phosmet was poured along the bovine's spinal column, whence it penetrated and concd. in phospholipids of the CNS membranes, covalently modifying endogenous phosphorylation sites on

phosphatidylinositols (PIs) etc., forming a \"toxic membrane bank\" of abnormally modified lipids that \"infect\" any membrane proteins (such as PrP) that are programmed to conjugate onto them for anchorage to the membrane. Thus, phosmet invokes a primary covalent modification on PrP's PI anchor which, in turn, invokes an overall diverse disturbance upon CNS phosphoinositide second messenger feed back cycle, calcium homeostasis and essential free radicals; thus initiating a self-perpetuating cascade of abnormally phosphorylated PI-PrP that invokes a secondary electrostatic and allosteric disturbance on the main body of PrP impairing tertiary folding. Chaperone stress proteins conjugate onto misfolded PrP blocking its sites of proteolytic cleavage. Fresh epidemiol. evidence is presented and exptl. evidence referenced that adds support to a multifactorial hypothesis which proposes that BSE is a hitherto unrecognized and previously unmanifested class of subtle chronic phosmet-induced delayed neuro-excitotoxicity in the susceptible bovine. [on SciFinder (R)] 0306-9877 review/ phosmet/ phosphatidylinositol/ prion/ protein/ encephalopathy

1035. Purdey, M. (The Uk Epidemic of Bse: Slow Virus or Chronic Pesticide-Initiated Modification of the Prion Protein? Part 2: an Epidemiological Perspective. *Med hypotheses. 1996, may; 46(5):445-54. [Medical hypotheses]: Med Hypotheses.*
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

ABSTRACT: This paper elucidates the flaws in the official hypothesis that bovine spongioform encephalopathy originated from alterations in the way that scrapie-contaminated cattlefeeds were manufactured in the UK. An alternative hypothesis is proposed that cites exposure of the bovine embryo to various specific high-dose lipophilic formulations of organophosphates, such as the high-dose phthalimide containing organophosphate phosmet, (which were applied compulsorily and exclusively in the UK during the 1980s/early 1990s) as the primary trigger that initiated the deformation of prion protein and the onset of the bovine spongioform encephalopathy epidemic. The multi-site binding metabolites of these organophosphates penetrate the fetus, covalently phosphorylating various active sites on fetal prion protein. The extra charged phosphate groups left on aged prion protein blocks both proteases and chaperones from accessing their catalytic/bonding sites, creating the undergradable, misfolded isoform of prion protein, PrPsc. The resulting abnormally phosphorylated PrPsc aggregates to freshly synthesized PrPc, transforming it into same; due to a system of positive feedback invoked by the organophosphate-induced blockage of a prion protein-specific protein kinase. Both the timing, distribution and dynamics of usage of these specific organophosphates correlates with the epidemiology of bovine spongioform encephalopathy as well as accounting for the 23,000 cattle that have developed the disease, yet were born after the 1988 ban on scrapie-contaminated cattlefeed.
MESH HEADINGS: *Animal Feed
MESH HEADINGS: Animals
MESH HEADINGS: Binding Sites
MESH HEADINGS: Cattle
MESH HEADINGS: Encephalopathy, Bovine Spongiform/*epidemiology/transmission
MESH HEADINGS: Female
MESH HEADINGS: Fetus
MESH HEADINGS: Great Britain/epidemiology
MESH HEADINGS: Incidence
MESH HEADINGS: Insecticides/*adverse effects/pharmacokinetics
MESH HEADINGS: Models, Biological
MESH HEADINGS: Phosmet/adverse effects/pharmacokinetics
MESH HEADINGS: Phthalimides/adverse effects/pharmacokinetics
MESH HEADINGS: Pregnancy
MESH HEADINGS: Prions/*drug effects/metabolism
LANGUAGE: eng

1036. Puri, N., Appa Rao, K. B., Menon, S., Panda, A. K., Tiwari, G., Garg, L. C., and Totey, S. M. (Effect of the Codon Following the Atg Start Site on the Expression of Ovine Growth Hormone in Escherichia Coli. *Protein expr purif. 1999, nov; 17(2):215-23. [Protein expression and*

purification]: Protein Expr Purif.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: For expression of ovine growth hormone (OGH) in inclusion bodies without an affinity histidine tag at either end of the protein, three clones, differing only in the second codon following the ATG start site, were constructed. Their expression was studied by SDS-PAGE followed by immunoblotting. Clone Ala.OGH (clone 1), beginning with Met.Ala.Phe.Pro ellipsis, did not show any expression. Clone Phe.OGH (clone 3), beginning with Met.Phe.Pro ellipsis, gave very high levels of OGH expression following IPTG induction. However, in clone Gly.OGH (clone 2), in which the Ala codon was replaced with a Gly codon at the second position after the start site, a lower level of expression was obtained. Northern hybridization analysis showed that upon IPTG induction, OGH mRNA was transcribed from all three clones. These results therefore, imply that lack of expression in clone 1 and a lower level of expression in clone 2 are not due to a failure of transcription; however, they may be due to inefficient initiation of translation. The secondary structure analysis of mRNA predicts inaccessibility of different elements of the RBS in the case of Ala.OGH (clone 1). The present study highly underscores the importance of mRNA secondary structure at the start site in regulation of expression of a cloned gene in Escherichia coli, a prokaryotic expression system.
MESH HEADINGS: Animals
MESH HEADINGS: Codon/genetics/*pharmacology
MESH HEADINGS: Codon, Initiator/*genetics
MESH HEADINGS: Escherichia coli/*genetics
MESH HEADINGS: Gene Expression Regulation/*drug effects/genetics
MESH HEADINGS: Genetic Vectors/chemistry
MESH HEADINGS: Growth Hormone/biosynthesis/drug effects/*genetics
MESH HEADINGS: Mutagenesis, Site-Directed
MESH HEADINGS: Protein Biosynthesis
MESH HEADINGS: RNA, Messenger/analysis/drug effects
MESH HEADINGS: Sheep/*genetics/physiology
MESH HEADINGS: Transcription, Genetic/drug effects
MESH HEADINGS: Transformation, Bacterial
LANGUAGE: eng

1037. Pusch, R. and Kihl, A. (Percolation of Clay Liners of Ash Landfills in Short and Long Time Perspectives. *Waste manag res. 2004, apr; 22(2):71-7. [Waste management & research : the journal of the international solid wastes and public cleansing association, iswa]: Waste Manag Res*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Top covers of waste landfills conventionally contain a drain layer over a 1(low-permeable clay liner usually containing smectite minerals. The rate of percolation of the clay liner, which may require tens of years to become water-saturated, determines the downward transport of ions released from the underlying waste to and through the bottom clay liner. The percolation rate is controlled by the composition and density of the tipper liner, which should be as tight as possible. This implies a high density and therefore a high swelling potential which must be moderated by proper design. The bottom clay liner is a less effective and reliable barrier since cation exchange will increase the hydraulic conductivity and cause a significant rise in percolation rate and risk of chemical attack by the percolate. The top liner will undergo very moderate strain if the ash fill is effectively compacted and undergoes little self-compaction. Processes that may cause degradation are freezing and drying and require proper design. In this paper the authors examine the performance of ash-fills isolated by clay liners and conclude that the most important issue is to design and construct the top liner to be as impermeable as possible paying less attention to the tightness of the bottom layer.
MESH HEADINGS: *Aluminum Silicates
MESH HEADINGS: Diffusion
MESH HEADINGS: Incineration
MESH HEADINGS: Industrial Waste

MESH HEADINGS: Refuse Disposal/*methods
MESH HEADINGS: Silicates
MESH HEADINGS: Time Factors
MESH HEADINGS: *Water Pollution, Chemical
LANGUAGE: eng

1038. Pylypiw, Harry M. Jr (1993). Rapid gas chromatographic method for the multiresidue screening of fruits and vegetables for organochlorine and organophosphate pesticides. *Journal of AOAC International* 76: 1369-73.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:189962
Chemical Abstracts Number: CAN 120:189962
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organochlorine and organophosphate, detn. of, in fruits and vegetables, by gas chromatog.); Apple; Apple juice; Cabbage; Carrot; Cucumber; Grape; Orange juice; Peach; Plum; Strawberry; Tomato (pesticides detn. in, by gas chromatog.); Capsicum annuum annuum (grossum group, pesticides detn. in, by gas chromatog.); Cucurbita (squash, pesticides detn. in, by gas chromatog.)
CAS Registry Numbers: 50-29-3 (DDT); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (TDE); 72-55-9 (DDE); 76-44-8 (Heptachlor); 86-50-0 (Methyl azinphos); 99-30-9 (Dicloran); 115-32-2 (Dicofol); 118-74-1 (HCB); 121-75-5 (Malathion); 133-06-2 (Captan); 298-00-0 (Methyl parathion); 309-00-2 (Aldrin); 319-85-7 (b-BHC); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1861-32-1 (Dacthal); 1897-45-6 (Chlorothalonil); 2385-85-5 (Mirex); 2921-88-2 (Chlorpyrifos); 8001-35-2 (Toxaphene); 12789-03-6 (Chlordane); 19666-30-9 (Oxadiazon); 25311-71-1 (Isofenphos); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan II); 36734-19-7 (Iprodione); 50471-44-8 (Vinclozolin); 52645-53-1 (Permethrin) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in fruits and vegetables, by gas chromatog.) A rapid and reliable method was developed for the detn. of pesticides in fruits and vegetables. A 100 g sample is extd. with a mixt. of 200 mL petroleum ether and 100 mL 2-propanol. The ext. is backwashed 4 times, twice with aq. sodium sulfate and twice with 350 mL distd. water, and then dried over 15 g sodium sulfate. The dried ext. is analyzed by capillary gas chromatog. with selective organochlorine and organophosphorus detection. The method dets. primarily nonpolar pesticides, with recoveries ranging from 81 to 114%, and has an av. limit of detection of 10 ppb for both detectors. [on SciFinder (R)] 1060-3271 organochlorine/ organophosphate/ detn/ gas/ chromatog/ fruit;/ pesticide/ detn/ fruit/ gas/ chromatog

1039. Qaiser, M. and Perveen, A. (2004). Pollen Flora of Pakistan-Xxxvii. Tamaricaceae. *Pakistan Journal of Botany, 36 (1) pp. 1-18, 2004*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0556-3321
Abstract: Pollen morphology of 35 taxa of the family Tamaricaceae from Pakistan has been examined by light and scanning electron microscope. Pollen grains usually radially symmetrical, isopolar prolate-subprolate, rarely prolate-spheroidal, colpate Sexine thinner or thicker than nexine. Tectum reticulate to reticulate - rugulate or foveolate or areolate. On the basis of tectum and relative thickness of sexine and nexine three distinct pollen types are recognized viz., Myricaria squamosa - type, Reaumuria alternifolia - type and Tamarix aphylla - type. Pollen of the genus Tamarix are divided two groups viz., columellae present inside the luminae and luminae

without columellae. Playnological data has been useful at generic and specific level.
21 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Pakistan
Classification: 92.14.2.1 DIVERSITY: Flora Reports and Plant Geography: General flora
Classification: 92.14.1 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Subfile: Plant Science

1040. Quick, M. P. (1982). Pesticide Poisoning of Livestock: A Review of Cases Investigated. *Vet.Rec.* 111: 5-7.
Chem Codes: Chemical of Concern:
TCDD,PHTH,NAPH,PAH,PAQT,HCCH,DDT,DLD,PSM,FNTH,PL,PCP,STCH,MCB,MAL
Rejection Code: INCIDENT/REVIEW/SURVEY.

1041. Quirk, J. P. (2001). The Significance of the Threshold and Turbidity Concentrations in Relation to Sodicity and Microstructure. *Australian Journal of Soil Research, 39 (6) pp. 1185-1217, 2001*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0004-9573
Descriptors: Interparticle forces
Descriptors: Permeability
Descriptors: Electrolyte concentration
Descriptors: Swelling
Descriptors: Dispersion
Abstract: Quirk and Schofield (1955) in their paper on the effect of electrolyte concentration on soil permeability in relation to sodicity designated 2 concentrations: the threshold concentration, which related to the first discernible effect on soil structure; and the turbidity concentration, at which the dismantling of the soil microstructure is indicated by the appearance of dispersed particles in the percolate - this occurs when the electrolyte concentration is about one-quarter of the threshold concentration. This behaviour is explained in terms of clay domains, which are assemblages of many clay particles in parallel alignment. Within a clay domain, slit-shaped pores with surface separations about equal to the thickness of clay crystals exist. When calcium is the dominant exchangeable ion the clay domains are stable because where contiguous crystals overlap the surfaces reside in a potential well as a result of strong attractive forces. These attractive forces are similar to those responsible for the stability of Camontmorillonite and Ca-vermiculite crystals. A model of 3 clay crystals is used to illustrate how crystal interaction within a clay domain, in terms of classical repulsive diffuse double-layer forces and modern attractive forces, affect domain stability. Attention is drawn to a misconception, now prevalent in the literature, which does not recognise the basic significance of the turbidity concentration with respect to microstructure and wrongly contends that the concentration of electrolyte required to effect the dispersion to flocculation transition in soil suspensions can be used for predicting the level of electrolyte required to sustain soil permeability or infiltration rate in irrigation practice. It is shown that the flocculation concentration is almost 8 times the turbidity concentration. The application of the threshold concentration concept in irrigation practice is discussed. It is demonstrated that the threshold and turbidity concentration comfortably explain the behaviour of a heavy clay soil subjected to border-check irrigation and Cajon sandy loam in Arizona.
70 refs.
Language: English
English
Publication Type: Journal
Publication Type: Conference Paper
Country of Publication: Australia
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science

Subfile: Plant Science

1042. Raevsky, O. A. and Dearden, J. C (2004). Creation of predictive models of aquatic toxicity of environmental pollutants with different mechanisms of action on the basis of molecular similarity and HYBOT descriptors. *SAR and QSAR in Environmental Research* 15: 433-448.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Database: CAPLUS
Accession Number: AN 2004:1012718
Chemical Abstracts Number: CAN 142:149897
Section Code: 4-1
Section Title: Toxicology
CA Section Cross-References: 61
Document Type: Journal
Language: written in English.
Index Terms: Toxicity (aquatic; creation of predictive models of aquatic toxicity of environmental pollutants with different mechanisms of action on basis of mol. similarity and HYBOT descriptors); Poecilia reticulata; Polarizability; Regression analysis; Water pollution (creation of predictive models of aquatic toxicity of environmental pollutants with different mechanisms of action on basis of mol. similarity and HYBOT descriptors); Hydrogen bond (intramol.; creation of predictive models of aquatic toxicity of environmental pollutants with different mechanisms of action on basis of mol. similarity and HYBOT descriptors); Structure-activity relationship (toxic; creation of predictive models of aquatic toxicity of environmental pollutants with different mechanisms of action on basis of mol. similarity and HYBOT descriptors)
CAS Registry Numbers: 50-00-0 (Methanal); 55-38-9 (Fenthion); 56-23-5 (Tetrachloromethane); 58-89-9 (Lindane); 58-90-2 (2,3,4,6-Tetrachlorophenol); 59-50-7 (4-Chloro-3-methylphenol); 60-29-7 (Diethyl ether); 60-57-1 (Dieldrin); 62-53-3 (Aniline); 64-17-5 (Ethanol); 65-82-7 (Thiomedon); 66-25-1 (Hexanal); 67-56-1 (Methanol); 67-63-0 (2-Propanol); 67-64-1 (Acetone); 67-66-3 (Chloroform); 67-72-1 (Hexachloroethane); 71-36-3 (1-Butanol); 71-43-2 (Benzene); 71-55-6 (1,1,1-Trichloroethane); 75-04-7 (Ethylamine); 75-07-0 (Ethanal); 75-09-2 (Dichloromethane); 75-34-3 (1,1-Dichloroethane); 75-56-9 (Propylene oxide); 75-65-0 (tert-Butanol); 75-97-8 (3,3-Dimethyl-2-butanone); 76-01-7 (Pentachloroethane); 78-83-1 (Isobutanol); 78-84-2 (2-Methylpropanal); 78-87-5 (1,2-Dichloropropane); 78-88-6 (2,3-Dichloropropene); 78-93-3 (2-Butanone); 78-95-5 (Chloroacetone); 78-96-6 (1-Amino-2-propanol); 79-00-5 (1,1,2-Trichloroethane); 79-01-6 (Trichloroethene); 79-06-1 (Acrylamide); 79-34-5 (1,1,2,2-Tetrachloroethane); 80-46-6 (4-tert-Pentylphenol); 83-41-0 (2,3-Dimethylnitrobenzene); 83-42-1 (2-Chloro-6-nitrotoluene); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 87-61-6 (1,2,3-Trichlorobenzene); 87-65-0 (2,6-Dichlorophenol); 87-68-3 (Hexachlorobutadiene); 87-86-5 (Pentachlorophenol); 88-04-0 (4-Chloro-3,5-dimethylphenol); 88-06-2 (2,4,6-Trichlorophenol); 88-72-2 (2-Nitrotoluene); 88-73-3 (2-Chloronitrobenzene); 88-74-4 (2-Nitroaniline); 88-85-7 (2-sec-Butyl-4,6-dinitrophenol); 89-59-8 (4-Chloro-2-nitrotoluene); 89-61-2 (2,5-Dichloronitrobenzene); 90-15-3 (1-Naphthalenol); 91-22-5 (Quinoline); 94-99-5 (2,4,a-Trichlorotoluene); 95-47-6; 95-48-7 (2-Methylphenol); 95-50-1 (1,2-Dichlorobenzene); 95-51-2 (2-Chloroaniline); 95-53-4 (2-Methylaniline); 95-57-8 (2-Chlorophenol); 95-65-8 (3,4-Dimethylphenol); 95-73-8 (2,4-Dichlorotoluene); 95-75-0 (3,4-Dichlorotoluene); 95-76-1 (3,4-Dichloroaniline); 95-82-9 (2,5-Dichloroaniline); 95-94-3 (1,2,4,5-Tetrachlorobenzene); 95-95-4 (2,4,5-Trichlorophenol); 96-09-3 (Styrene oxide); 96-18-4 (1,2,3-Trichloropropane); 96-22-0 (3-Pentanone); 97-00-7 (1-Chloro-2,4-dinitrobenzene); 97-77-8 (Disulfiram); 98-01-1 (2-Furaldehyde); 98-54-4 (4-tert-Butylphenol); 98-86-2 (Acetophenone); 98-95-3 (Nitrobenzene); 99-08-1 (3-Nitrotoluene); 99-09-2 (3-Nitroaniline); 99-51-4; 99-65-0 (1,3-Dinitrobenzene); 99-99-0 (4-Nitrotoluene); 100-00-5 (4-Chloronitrobenzene); 100-01-6 (4-Nitroaniline); 100-02-7 (4-Nitrophenol); 100-44-7 (Benzyl chloride); 100-46-9 (Benzylamine); 100-50-5 (3-Cyclohexene-1-carboxaldehyde); 100-52-7 (Benzaldehyde); 101-84-8 (Diphenyl ether); 104-13-2 (4-Butylaniline); 104-40-5 (4-Nonylphenol); 105-67-9 (2,4-Dimethylphenol); 106-40-1 (4-

Bromoaniline); 106-42-3; 106-43-4 (4-Chlorotoluene); 106-44-5 (4-Methylphenol); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-48-9 (4-Chlorophenol); 106-49-0 (4-Methylaniline); 106-88-7 (1,2-Epoxybutane); 106-89-8 (Epichlorohydrin); 107-05-1 (Allyl chloride); 107-06-2 (1,2-Dichloroethane); 107-10-8 (Propylamine); 107-18-6 (Allyl alcohol); 107-21-1 (1,2-Ethanediol); 107-41-5 (2-Methyl-2,4-pentanediol); 107-45-9 (tert-Octylamine); 108-10-1 (4-Methyl-2-pentanone); 108-20-3 (Diisopropyl ether); 108-38-3; 108-39-4 (3-Methylphenol); 108-41-8 (3-Chlorotoluene); 108-42-9 (3-Chloroaniline); 108-43-0 (3-Chlorophenol); 108-44-1 (3-Methylaniline); 108-46-3 (1,3-Dihydroxybenzene); 108-70-3 (1,3,5-Trichlorobenzene); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 108-93-0 (Cyclohexanol); 108-94-1 (Cyclohexanone); 108-95-2 (Phenol); 109-59-1 (2-Isopropoxyethanol); 109-69-3 (1-Chlorobutane); 109-73-9 (Butylamine); 109-85-3 (2-Methoxyethylamine); 109-86-4 (2-Methoxyethanol); 109-99-9 (Tetrahydrofuran); 110-00-9 (Furan); 110-58-7 (Amylamine); 110-62-3 (Pentanal); 110-80-5 (2-Ethoxyethanol); 110-93-0 (6-Methyl-5-hepten-2-one); 111-13-7 (2-Octanone); 111-26-2 (Hexylamine); 111-27-3 (1-Hexanol); 111-44-4 (2,2'-Dichlorodiethyl ether); 111-46-6 (Diethylene glycol); 111-68-2 (Heptylamine); 111-71-7 (Heptanal); 111-76-2 (2-Butoxyethanol); 111-86-4 (Octylamine); 111-87-5 (1-Octanol); 111-90-0 (2-(2-Ethoxyethoxy)ethanol); 112-20-9 (Nonylamine); 112-27-6 (Triethylene glycol); 112-30-1 (1-Decanol); 112-31-2 (Decanal); 112-34-5 (Butyldigol); 112-42-5 (1-Undecanol); 112-53-8 (1-Dodecanol); 112-56-1 (Lethane); 115-20-8 (2,2,2-Trichloroethanol); 118-79-6 (2,4,6-Tribromophenol); 119-34-6 (4-Amino-2-nitrophenol); 119-61-9 (Benzophenone); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-69-7 (N,N-Dimethylaniline); 121-73-3 (3-Chloronitrobenzene); 121-87-9 (2-Chloro-4-nitroaniline); 122-14-5 (Fenitrothion); 122-99-6 (2-Phenoxyethanol); 123-07-9 (4-Ethylphenol); 123-38-6 (Propanal); 123-72-8 (Butanal); 124-13-0 (Octanal); 124-22-1 (Dodecylamine); 127-18-4 (Tetrachloroethene); 136-77-6 (4-Hexylresorcinol); 140-88-5 (Ethyl acrylate); 141-43-5 (2-Aminoethanol); 142-28-9 (1,3-Dichloropropane); 142-96-1 (Dibutyl ether); 143-08-8 (1-Nonanol); 148-24-3 (8-Hydroxyquinoline); 150-19-6 (3-Methoxyphenol); 150-76-5 (4-Methoxyphenol); 150-78-7 (1,4-Dimethoxybenzene); 298-00-0 (Methylparathion); 299-84-3 (Ronnel); 329-71-5 (2,5-Dinitrophenol); 393-39-5 (a,a,a,4-Tetrafluoro-2-methylaniline); 500-28-7 (Chlorothion); 502-56-7 (5-Nonanone); 541-73-1 (1,3-Dichlorobenzene); 542-75-6 (1,3-Dichloropropene); 552-41-0; 554-00-7 (2,4-Dichloroaniline); 554-84-7 (3-Nitrophenol); 556-52-5 (Glycidol); 563-52-0 (3-Chloro-1-butene); 563-80-4 (3-Methyl-2-butanone); 576-26-1 (2,6-Dimethylphenol); 578-54-1 (2-Ethylaniline); 583-78-8 (2,5-Dichlorophenol); 584-02-1 (3-Pentanol); 587-02-0 (3-Ethylaniline); 589-16-2 (4-Ethylaniline); 590-86-3 (3-Methylbutanal); 591-35-5 (3,5-Dichlorophenol); 591-97-9 (1-Chloro-2-butene); 598-74-3 (1,2-Dimethylpropylamine); 608-93-5 (Pentachlorobenzene); 609-19-8 (3,4,5-Trichlorophenol); 611-06-3 (2,4-Dichloronitrobenzene); 616-86-4 (4-Ethoxy-2-nitroaniline); 618-62-2 (3,5-Dichloronitrobenzene); 626-43-7 (3,5-Dichloroaniline); 634-66-2 (1,2,3,4-Tetrachlorobenzene); 634-67-3 (2,3,4-Trichloroaniline); 634-83-3 (2,3,4,5-Tetrachloroaniline); 634-90-2 (1,2,3,5-Tetrachlorobenzene); 636-30-6 (2,4,5-Trichloroaniline); 640-19-7 (Fluoroacetamide); 644-35-9 (2-Propylphenol); 645-56-7 (4-Propylphenol); 693-16-3 (1-Methylheptylamine); 693-54-9 (2-Decanone); 693-65-2 (Dipentyl ether); 732-11-6 (Phosmet); 764-41-0 (1,4-Dichloro-2-butene); 768-94-5 (Tricyclo[3.3.1.13,7]decan-1-amine); 771-60-8 (Pentafluoroaniline); 831-82-3 (4-Phenoxyphenol); 933-75-5 (2,3,6-Trichlorophenol); 933-78-8 (2,3,5-Trichlorophenol); 935-95-5 (2,3,5,6-Tetrachlorophenol); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1198-55-6 (3,4,5,6-Tetrachloro-2-hydroxyphenol); 1436-34-6 (1,2-Epoxyhexane); 1464-53-5 (1,3-Butadienediepoxide); 1484-26-0 (3-Benzyloxyaniline); 1634-04-4 (tert-Butyl methyl ether); 1638-22-8 (4-n-Butylphenol); 1689-82-3 (4-Phenylazophenol); 1745-81-9 (2-Allylphenol); 2016-57-1 (Decylamine); 2043-61-0 (Cyclohexanecarboxaldehyde); 2104-96-3 (Bromophos); 2234-16-4; 2357-47-3 (a,a,a,4-Tetrafluoro-3-methylaniline); 2404-44-6 (1,2-Epoxydecane); 2409-55-4 (2-tert-Butyl-4-methylphenol); 2416-94-6 (2,3,6-Trimethylphenol); 2426-07-5 (1,2,7,8-Diepoxyoctane); 2460-49-3 (4,5-Dichloro-2-methoxyphenol); 2463-84-5 (Dicapthon); 2539-26-6 (3,4,5-Trichloro-2,6-dimethoxyphenol); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2719-42-8 (a,a-Dichloro-m-xylene); 2855-19-8 (1,2-Epoxydodecane); 2869-34-3 (Tridecylamine); 2984-50-1 (1,2-Epoxyoctane); 3132-64-7 (Epibromohydrin); 3209-22-1 (2,3-Dichloronitrobenzene); 3481-20-7 (2,3,5,6-Tetrachloroaniline); 4170-30-3 (2-Butenal); 4412-91-3 (3-Furanmethanol); 4901-51-3 (2,3,4,5-Tetrachlorophenol); 5673-07-4 (2,6-Dimethoxytoluene); 5813-64-9 (2,2-

Dimethylpropylamine); 6639-30-1 (2,4,5-Trichlorotoluene); 6640-27-3 (2-Chloro-4-methylphenol); 7307-55-3 (Undecylamine); 13909-73-4; 13952-84-6 (sec-Butylamine); 14088-71-2 (Proclonol); 14938-35-3 (4-n-Pentylphenol); 15673-00-4 (3,3-Dimethylbutylamine); 16245-79-7 (4-Octylaniline); 18181-70-9 (Iodofenphos); 24544-04-5 (2,6-Diisopropylaniline); 37529-30-9 (4-Decylaniline); 38260-54-7 (Etrimfos); 39905-57-2 (4-Hexyloxyaniline); 52918-63-5 (Decamethrin); 57057-83-7 (3,4,5-Trichloro-2-methoxyphenol); 88963-39-7 (2,3,6-Trichloroaniline); 114012-04-3 (Methylisocyanothion) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (creation of predictive models of aquatic toxicity of environmental pollutants with different mechanisms of action on basis of mol. similarity and HYBOT descriptors)
Citations: 1) Konemann, H; Toxicology 1981, 19, 209
Citations: 2) Lipnick, R; Practical Applications of Quantitative Structure--Activity Relationships (QSAR) in Environmental Chemistry and Toxicology 1990, 281
Citations: 3) Verhaar, H; Chemosphere 1992, 25, 471
Citations: 4) Katritzky, A; J Chem Inf Comput Sci 2001, 41, 1162
Citations: 5) Dearden, J; Quant Struct Act Relat 2000, 19, 3
Citations: 6) Raevsky, O; HYBOT (HYdrogen Bond Thermodynamics) program package 1999, 990090
Citations: 6) Raevsky, O; HYBOT in UNIX/LINUX 2002, 2002610496
Citations: 6) Raevsky, O; www//http/ibmh.msk.su/molpro/HYBOT
Citations: 7) Raevsky, O; Program package MOLDIVS (MOLecular DIVersity and Similarity) 1999, 990091
Citations: 8) Raevsky, O; Quant Struct Act Relat 1995, 14, 433
Citations: 9) Raevsky, O; J Phys Org Chem 1997, 10, 405
Citations: 10) Raevsky, O; SAR QSAR Environ Res 2001, 12, 367
Citations: 11) Raevsky, O; QSAR & Comb Sci 2004, 23, 327
Citations: 12) Raevsky, O; Quant Struct Act Relat 2002, 20, 402
Citations: 13) Raevsky, O; J Chem Inf Comput Sci 2002, 42, 540 Over half of known industrial pollutants have minimal toxic effect, in line with the concept of \"baseline toxicity\"; such toxicity usually correlates well with lipophilicity. The remainder require addnl. descriptors in order to model their toxicity by the QSAR approach. Hence, it has not been possible, to date, to develop common stable QSAR models for the toxicity of diverse chems. with various modes of action on the basis of simple regression relationships. Any new methodol. has to take such different modes of action into account. In our work, we used for this purpose an original combination of the similarity concept and physicochem. descriptors calcd. by HYBOT, in order to construct stable QSAR models of guppy toxicity. The training set comprised 293 diverse chems. Exptl. value(s) of one or more nearest related chems. were used to take structural features and possible modes of toxic action into account. In addn., mol. polarizability and hydrogen bond descriptors for the chems. of interest and related compds. were used to calc. any addnl. contribution in toxicity by means of linear regression relationships. Final comparison of calcd. and exptl. toxicity values gave good results, with std. deviation close to the exptl. error. [on SciFinder (R)] 1062-936X model/ aquatic/ toxicity/ pollutant/ HYBOT/ descriptor;/ QSAR/ guppy/ toxicity/ meta/ analysis/ mol/ descriptor

1043. Ragab, Mohamed T. H (1967). Direct fluorescent detection of organothiophosphorus pesticides and some of their sulfur-containing breakdown products after thin-layer chromatography. *Journal - Association of Official Analytical Chemists* 50: 1088-98.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1967:499119
Chemical Abstracts Number: CAN 67:99119
Section Code: 19
Section Title: Pesticides
Document Type: Journal

Language: written in English.
Index Terms: Pesticides Role: ANT (Analyte), ANST (Analytical study) (organothiophosphorus, fluorescent chromatog. of)
Index Terms(2): Phosphoric acid Phosphoric acid Role: ANT (Analyte), ANST (Analytical study) (fluorescent chromatog. of)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 56-72-4; 60-51-5; 62-73-7; 78-34-2; 78-48-8; 86-50-0; 115-90-2; 121-75-5; 141-66-2; 298-00-0; 298-02-2; 298-04-4; 298-06-6; 299-84-3; 299-85-4; 299-86-5 (Phosphoramidic acid, methyl-, 4-tert-butyl-2-chlorophenyl methyl ester); 300-76-5; 301-12-2; 311-45-5; 327-98-0; 333-41-5; 732-11-6; 741-58-2; 756-79-6; 756-80-9; 786-19-6; 953-17-3; 1015-38-9; 1113-02-6; 1634-78-2; 2496-91-5; 2496-92-6; 2588-03-6; 2588-06-9; 2921-88-2; 3383-96-8; 6303-21-5; 7664-38-2; 7700-17-6; 7786-34-7 (Crotonic acid, 3-hydroxy-, methyl ester, dimethyl phosphate); 13171-22-7 Role: ANT (Analyte), ANST (Analytical study) (fluorescent chromatog. of); 126-75-0 Role: ANT (Analyte), ANST (Analytical study) (mixt. with O,O-diethyl O-[2-(ethylthio)ethyl] ester, fluorecent chromatog. of); 298-03-3 Role: ANT (Analyte), ANST (Analytical study) (mixt. with O,O-diethyl S-[2-(ethylthio)ethyl] ester, fluorescent chromatog. of) A rapid, simple, convenient, and widely applicable method for the direct fluorescent detection of organothiophosphorus pesticides and some postulated breakdown products of these compds. is presented. The compds. were spotted on thin-layer chromatographic sheets, developed in EtOAc-n-hexane, and made visible by exposure to Br vapor followed by spraying with FeCl3 and 2-(o-hydroxyphenyl)benzoxazole. Of the 47 compds. tested, 32 compds. produced fluorescent blue spots under longwave uv light; these consisted of 25 organothiophosphorus pesticides, 5 S-contg. breakdown products, and phosphoric and hypophosphorous acids. A superimposed Congo red spray destroyed the fluorescence and resulted in dark blue spots against a red background. The sensitivity of this method is in the range of 0.2 to 5.0 mg., depending on the specific compd. 27 references. [on SciFinder (R)] 0004-5756
FLUOROMETRY/ PESTICIDE;/ THIN/ LAYER/ CHROMATOG/ PESTICIDE;/ CHROMATOG/ THIN/ LAYER/ PESTICIDE;/ ORGANOTHIOPHOSPHORUS/ PESTICIDE/ ANALYSIS

1044. Ragaini, R., Aines, R., Knapp, R., Matthews, S., and Yow, J. (Innovative Technologies for in-Situ Remediation. *Govt reports announcements & index (gra&i), issue 11, 1995*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE, METHODS.

ABSTRACT: TD3: LLNL is developing several innovative remediation technologies as long-term improvements to the current pump and treat approaches to cleaning up contaminated soils and groundwater. These technologies include dynamic underground stripping, in-situ microbial filters, and remediation using bremsstrahlung radiation. Concentrated underground organic contaminant plumes are one of the most prevalent groundwater contamination sources. The solvent or fuel can percolate deep into the earth, often into water-bearing regions. Collecting as a separate, liquid organic phase called dense non-aqueous-phase liquids (DNAPLs), or light NAPLs (LNAPLs), these contaminants provide a source term that continuously compromises surrounding groundwater. This type of spill is one of the most difficult environmental problems to remediate. Attempts to remove such material requires a huge amount of water which must be washed through the system to clean it, requiring decades. Traditional pump and treat approaches have not been
KEYWORDS: Ground Water
KEYWORDS: Remedial Action
KEYWORDS: Soils

1045. Ramalho, F. S. and Jesus, F. M Md (Chemical Control of Cotton Boll Weevil Anthonomus-Grandis Boheman 1843 Coleoptera Curculionidae. *An soc entomol bras; 15 (2). 1986 (recd. 1987). 335-342.*
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM METHYL PARATHION ABAMECTIN ENDOSULFAN CARBARYL PHOSMET CYPERMETHRIN INSECTICIDES
MESH HEADINGS: BIOLOGY/METHODS

MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: TEXTILES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: COLEOPTERA
KEYWORDS: Methods
KEYWORDS: Methods
KEYWORDS: Agronomy-Fiber Crops
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Coleoptera
LANGUAGE: por

1046. Ramalho, F. S., Silva, V. Lb, and Jesus, F. Mm (1989). Effects of Insecticide Residues on Trichogramma-Pretiosum Hymenoptera Trichogrammatidae. *Pesqui agropecu bras* 24: 315-320.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM GOSSYPIUM-HIRSUTUM ABAMECTIN PARATHION-METHYL ENDOSULFAN CARBARYL PHOSMET EGG PARASITOID BIOLOGICAL CONTROL AGENT CROP INDUSTRY AGRICULTURE
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: TEXTILES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL, BIOLOGICAL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS

MESH HEADINGS: HYMENOPTERA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Agronomy-Fiber Crops
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Biological Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Parasitology-General
KEYWORDS: Malvaceae
KEYWORDS: Hymenoptera
LANGUAGE: por

1047. Rambow, J. and Lennartz, B. *. (1994). Simulation of the Migration Behavior of Herbicides in Unsaturated Soils With a Modified Leachp-Version. *Ecological Modelling [ECOL. MODEL.]. Vol. 75-76, pp. 523-528. 1994.*
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ISSN: 0304-3800
Descriptors: Article Subject Terms: models
Descriptors: soil
Descriptors: herbicides
Descriptors: leaching
Descriptors: mathematical models
Descriptors: hysteresis
Descriptors: fate
Descriptors: agricultural pollution
Descriptors: soil solution
Descriptors: model studies
Descriptors: fate of pollutants
Descriptors: soils
Descriptors: transport processes
Abstract: The incorporation of the hysteresis effect into the model LEACHP has led to a remarkable improvement in the prediction of herbicide leaching behavior. This modified version uses non-singular and non-linear isotherms for the description of ad- and desorption processes in contrast to the original version that assumes linear adsorption. In most cases of the laboratory studies the hysteresis version calculated less herbicide discharge from the soil profile than the original version. At the same time the modified model showed a much better agreement with the measured data regarding both the herbicide's first appearance in the soil percolate and the location of its maximum concentration. The hysteresis version also calculated less chemical loss under field conditions. The movement of the herbicidal solutes within the soil profile could be identified as highly dependable on large rainfall events.
Conference: 8. Conference of the International Society for Ecological Modelling, Kiel (Germany), 28 Sep-2 Oct 1992
Language: English
English
Publication Type: Journal Article
Publication Type: Conference
Environmental Regime: Freshwater
Classification: D 04003 Modeling, mathematics, computer applications
Classification: P 5000 LAND POLLUTION
Classification: SW 3020 Sources and fate of pollution
Classification: Q5 01503 Characteristics, behavior and fate
Classification: D 04600 Soil
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts; Pollution Abstracts; Ecology Abstracts

1048. Ramsey, R. H. and Sweazy, R. M. (Lubbock Land Treatment System Research and Demonstration Project. Volume 2. Percolate Investigation in the Root Zone. *Govt reports announcements & index (gra&i), issue 12, 1986*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: The Lubbock Land Treatment System Research and Demonstration Project, funded by Congress in 1978 (H.R. 9375), was designed to address the various issues concerning the use of slow rate land application of municipal wastewater. The project involved the (1) physical expansion of an overloaded 40-year old Lubbock slow rate land treatment system; (2) characterization of the chemical, biological and physical conditions of the ground water, soils and crop prior to and during irrigation with secondary treated municipal wastewater; (3) evaluation of the health effects associated with the slow rate land application of secondary effluent and (4) assessment of the effects of hydraulic, nutrient and salt mass loadings on crops, soil and percolate. Percolate investigations, described in the volume, evaluated the fate of infiltrating nutrients from applied wastewaters in the root zone at test plots located on both study farms. Final rept. 27 Nov 78-31 Dec 85, See also PB86-173598, and PB86-173614. Prepared
KEYWORDS: Hydrology
KEYWORDS: Sewage disposal
KEYWORDS: Sewage treatment
KEYWORDS: Sewage irrigation
KEYWORDS: Land application

1049. Randhir, T. O. and Lee, J. G. (2000). Effect of Water Quality Standards on Farm Income, Risk, and Nps Pollution. *Journal of the American Water Resources Association [J. Am. Water Resour. Assoc.]. Vol. 36, no. 3, pp. 595-608. Jun 2000.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 1093-474X
Descriptors: Article Subject Terms: Farm Management
Descriptors: Farms
Descriptors: Water Quality Standards
Descriptors: Nonpoint Pollution Sources
Descriptors: Water Policy
Descriptors: Environmental Policy
Descriptors: Agricultural Runoff
Descriptors: Economic Aspects
Descriptors: Nitrates
Descriptors: Phosphorus
Descriptors: Pollution monitoring
Descriptors: Environmental impact
Descriptors: Water resources
Descriptors: Resource management
Descriptors: Environment management
Descriptors: Nonpoint pollution
Descriptors: Simulation
Descriptors: Economics
Descriptors: Agriculture
Descriptors: Risk assessment
Descriptors: Farms and farming
Descriptors: Standards (Water quality)
Descriptors: Pollution (Nonpoint sources)
Descriptors: Runoff (Agricultural) (see also Return flows)
Descriptors: Nitrate
Descriptors: Article Geographic Terms: USA
Abstract: Enforceable standards play a crucial role in the design and implementation of most water quality policies. The impacts of these standards on farm income and nonpoint source (NPS)

pollution can provide valuable information to develop economic policies that can improve water quality with minimal loss in income and minimal risk. This study uses an integration of nonlinear programming and a simulation model to assess the impacts of enforceable standards at technology and farm boundary levels. The results indicate that the type of pollutant regulated, enforcement type, and the level of standard had a significant impact on farm income and water quality. Choice of farm boundary standards over technology standards is dependent on the impact of the policy on other NPS pollutants, in addition to the reduction of nitrate and phosphorus pollutants. Enforcing farm boundary standards on nitrates had desirable effects on subsurface and percolate nitrogen and variance in income. Technology standards were uncertain in their effects because of the restriction on the choice of technologies available to farmers. A comparative policy analysis considering incentives, multiple impacts, transaction costs of implementation, and regional consideration is important to an effective policy design.
Language: English
English
Publication Type: Journal Article
Classification: SW 3070 Water quality control
Classification: Q5 01503 Characteristics, behavior and fate
Classification: P 2000 FRESHWATER POLLUTION
Classification: AQ 00002 Water Quality
Subfile: Pollution Abstracts; Aqualine Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Water Resources Abstracts

1050. Ranganathan, L. N. and Ramaratnam, S. (Vitamins for Epilepsy. *Cochrane database syst rev. 2005(2):cd004304. [Cochrane database of systematic reviews (online)]: Cochrane Database Syst Rev*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

COMMENTS: Update of: Ophthalmology. 1994 Aug;101(8):1347-52 (medline/8058279)
ABSTRACT: BACKGROUND: Vitamins have been reported to be effective in controlling certain types of seizures and to prevent some of the harmful effects of antiepileptic drugs (AEDs). In this review we will summarize evidence from randomized controlled trials. OBJECTIVES: To assess if vitamins improve seizure control, reduce adverse effects of AEDs or improve the quality of life in people with epilepsy. SEARCH STRATEGY: We searched MEDLINE from 1966 to 2004, the Cochrane Epilepsy Group trials register (December 2004), CENTRAL (the Cochrane Controlled Trials Register) (TheCochraneLibrary Issue 4, 2004), and cross-references from identified studies. SELECTION CRITERIA: Randomized or quasi-randomized studies investigating the effects of one or more vitamins given alone or in addition to AEDs to people of any age with any type of epilepsy. DATA COLLECTION AND ANALYSIS: Both reviewers assessed the trials for inclusion and extracted the data. Outcomes assessed included seizure frequency, gingival hyperplasia, neuropathy, changes in bone mineral content, serum calcium, alkaline phosphatase, hemogram, serum levels of AEDs, neuropsychological and quality of life outcomes. Primary analyses were by intention to treat. MAIN RESULTS: Fifteen studies met our inclusion criteria and were of poor methodological quality. None described randomization methods and most enrolled small numbers of participants. Nine studies (331 participants) investigated folic acid. Two studies (75 participants) found no effect for the outcome 50% or greater reduction in seizure frequency (OR 0.96; 95% CI 0.32 to 2.29). Also, no evidence was found for an effect on gingival health, intelligence, behavior, mental health or personality, or measures of red blood volume and hemoglobin content. Folic acid was not associated with any consistent changes in serum phenytoin or phenobarbitone levels or improvement in the mean motor conduction velocities of peripheral nerves. One small study (72 participants) found that thiamine improves neuropsychological functions related to psychomotor speed, visuospatial abilities, selective attention and verbal abstracting ability. One study (226 participants) found a significantly higher bone mineral content (BMC) among patients with epilepsy taking AEDs with vitamin D supplementation compared to controls who were not given supplementation (OR 3.6; 95% CI 2.48 to 4.72; $p < 0.00001$). The studies found no significant effects on serum calcium, alkaline phosphatase or general well-being. One small study (24 participants) found a significant decrease in seizure frequency in those treated

with vitamin E compared to placebo (p = 0.00005; Peto OR 26.73; 95% CI 5.46 to 130.92). AUTHORS' CONCLUSIONS: In view of methodological deficiencies and limited number of individual studies, we have found no reliable evidence to support the routine use of vitamins in patients with epilepsy. Further trials are needed, especially to assess the utility of vitamin D supplementation to prevent osteomalacia and the role of vitamin E on seizures and thiamine in improving cognitive functions.
MESH HEADINGS: Anticonvulsants/adverse effects/antagonists &amp
MESH HEADINGS: inhibitors
MESH HEADINGS: Epilepsy/*prevention &amp
MESH HEADINGS: control
MESH HEADINGS: Folic Acid/therapeutic use
MESH HEADINGS: Humans
MESH HEADINGS: Randomized Controlled Trials
MESH HEADINGS: Thiamine/therapeutic use
MESH HEADINGS: Vitamin A/therapeutic use
MESH HEADINGS: Vitamin D/therapeutic use
MESH HEADINGS: Vitamins/*therapeutic use
LANGUAGE: eng

1051. Rao, C. K. , Kumar, S., Jain, M. L., Jairaj, D., Narasimham, M. V., Mathur, A. B., Appa Roa, M. C., and Rao, C. K. (Control of Cyclops With Temephos in Guineaworm Endemic Villages in Andhra Pradesh and Rajasthan. *J commun dis. 1982, mar; 14(1):36-40. [The journal of communicable diseases]: J Commun Dis*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

MESH HEADINGS: Animals
MESH HEADINGS: *Crustacea
MESH HEADINGS: Dracunculiasis/*prevention &amp
MESH HEADINGS: control/transmission
MESH HEADINGS: Humans
MESH HEADINGS: India
MESH HEADINGS: *Insecticides
MESH HEADINGS: *Temefos
MESH HEADINGS: *Water Supply
LANGUAGE: eng

1052. Rawn, D. F. K., Cao, X.-L., Doucet, J., Davies, D. J., Sun, W.-F., Dabeka, R. W., and Newsome, W. H (2004). Canadian Total Diet Study in 1998: Pesticide levels in foods from Whitehorse, Yukon, Canada, and corresponding dietary intake estimates. *Food Additives & Contaminants* 21: 232-250.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:161439
Chemical Abstracts Number: CAN 141:37777
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Food (infant; pesticide levels in foods from Whitehorse, Yukon, Canada, and corresponding dietary intake ests.); Pesticides (organochlorine; pesticide levels in foods from Whitehorse, Yukon, Canada, and corresponding dietary intake ests.); Pesticides (organophosphorus; pesticide levels in foods from Whitehorse, Yukon, Canada, and corresponding dietary intake ests.); Aging; Breakfast cereal; Dairy products; Diet; Fish; Food; Food

contamination; Fruit; Human; Meat; Pesticides; Sex; Soups; Vegetable (pesticide levels in foods from Whitehorse, Yukon, Canada, and corresponding dietary intake ests.)
CAS Registry Numbers: 50-29-3; 53-19-0; 58-89-9 (g-HCH); 60-57-1 (Dieldrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 99-30-9 (Dichloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 118-74-1 (HCB); 121-75-5 (Malathion); 122-34-9 (Simazine); 133-06-2 (Captan); 298-00-0 (Methyl parathion); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfate); 1582-09-8 (Trifluralin); 1746-81-2 (Monolinuron); 1861-32-1 (Dacthal); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 5103-71-9 (cis-Chlordane); 18181-80-1 (Bromopropylate); 22248-79-9 (Tetrachlorvinphos); 33213-65-9 (Endosulfan II); 36734-19-7 (Iprodione); 39765-80-5 (trans-Nonachlor); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin) Role: POL (Pollutant), OCCU (Occurrence) (pesticide levels in foods from Whitehorse, Yukon, Canada, and corresponding dietary intake ests.)
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Citations: Andersen, J; Food Additives and Contaminants 2001, 18, 906
Citations: Braun, B; Science of the Total Environment 1999, 230, 145
Citations: Cabras, P; Food Additives and Contaminants 2001, 18, 880
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Citations: Conacher, H; Canadian Institute of Food Science and Technology Journal 1989, 22, 322
Citations: Conacher, H; Food Additives and Contaminants 1993, 10, 5
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Citations: Dabeka, R; Journal of AOAC International 1995, 78, 897
Citations: Dabeka, R; Journal of AOAC International 1993, 76, 14
Citations: Dejonckheere, W; Journal of AOAC International 1996, 79, 97
Citations: Dogheim, S; Food Additives and Contaminants 2002, 19, 1015
Citations: Dogheim, S; Journal of AOAC International 1996, 79, 949
Citations: Egan, S; Food Additives and Contaminants 2002, 19, 103
Citations: FDA; Journal of AOAC International 1995, 78, 117A
Citations: FDA; Food and Drug Administration Pesticide Program. Residue Monitoring 1998, http://www.cfsan.fda.gov/~download/pes98db.html 1998
Citations: FDA; Food and Drug Administration Total Diet Study. Summary of residues found ordered by food Market Baskets 913-99-1, http://vm.cfsan.fda.gov/~acrobat/TDS1byps.pdf 2000
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Citations: Fernandez, M; Food Additives and Contaminants 2001, 17, 615
Citations: Food Standards Australia New Zealand; The 20th Australian Total Diet Survey: A Total Diet Survey of Pesticide Residues and Contaminants 2003
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Citations: Government of Canada; Food and Drug Regulations, www.hc-sc.gc.ca/food-aliment/friia-raaii/food-drugs-aliments-drogues/act-loi/pdf/e_c-tables.pdf 1998
Citations: Gunderson, E; Journal of AOAC International 1995, 78, 1353
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Citations: IPCS; International Programme on Chemical Safety. Inventory of IPCS and Other WHO Pesticide Evaluations and Summary of Toxicological Evaluations Performed by the Joint Meeting on Pesticide Residues (JMPR), Evaluations Though 2002, http://www/who.int/pcs 2003
Citations: Kidd, K; Canadian Journal of Fishing and Aquatic Science 1998, 55, 869
Citations: Kidd, K; Science 1995, 269, 240
Citations: McLeod, H; Journal of Food Safety 1980, 2, 141
Citations: Nakagawa, R; Journal of AOAC International 1995, 78, 921
Citations: Newsome, W; Food Additives and Contaminants 1998, 15, 19
Citations: Newsome, W; Food Additives and Contaminants 2000, 17, 847
Citations: Rawn, D; Science of the Total Environment 2001, 280, 17

Citations: Roy, R; Journal of AOAC International 1995, 78, 930
Citations: Sawaya, W; Journal of AOAC International 1999, 82, 1458
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Citations: Schecter, A; Chemosphere 1998, 37, 1723
Citations: Smith, D; Pesticide Science 1971, 2, 92
Citations: Smith, D; Pesticide Science 1973, 4, 211
Citations: Smith, D; Pesticide Science 1975, 6, 75
Citations: Smith, D; Pesticide Science 1972, 3, 207
Citations: Stern, G; Environmental Science and Technology 1997, 31, 3619
Citations: Therapeutic Goods Administration; ADI List: Acceptable Daily Intakes for Agricultural and Veterinary Chemicals 2001
Citations: Vaz, R; Food Additives and Contaminants 1995, 12, 543
Citations: Vongbuddhapitak, V; Journal of AOAC International 2002, 85, 134
Citations: Whitehorse; http://www.city.whitehorse.yk.ca/ 2003
Citations: Anon; The Pesticide Manual. A Worm Compendium, 9th edn 1991
Citations: Zabik, M; Bulletin of Environmental and Contamination Toxicology 1995, 55, 264 The Canadian Total Diet Study is a national survey to det. the level of chem. contaminants in the Canadian food supply. Food samples were collected from Whitehorse, Yukon, supermarkets as part of the study in 1998. Whitehorse was chosen as a sampling center, despite its small population (n = 19 000), to det. if residue levels were different in foods available in northern communities relative to levels obsd. in previous studies in the more populated south. Foods were prepd. as for consumption before pesticide residue anal. Residue levels obsd. in most foods were similar to levels obsd. in samples from previous surveys from southern Canadian cities. Malathion and DDE (1,1-dichloro-2,2-bis(p-chlorophenyl)ethylene), a transformation product of DDT (1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane), were the two most frequently detected compds. (26.4 and 25.8%, resp.). The majority of pesticides, however, had a detection frequency of <5%. In general, pesticides in food composites were well below max. residue limits established in the Canadian Food and Drug Regulations. Chlorpropham and captan had the highest dietary intakes (2.16 and 1.94 mg (kg body wt.-day)-1, resp.), based on the results from Whitehorse. No dietary intakes above the acceptable daily intakes, however, were obsd. for any of the 39 pesticides investigated in any age-sex category, where an acceptable daily intake has been proposed. [on SciFinder (R)] 0265-203X food/ diet/ pesticide/ contamination

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM GAMMA BHC PARATHION HEXACHLOROBIPHENYL ANTHRACENE PESTICIDES INSECTICIDES POLLUTANTS SUPERCRITICAL FLUID EXTRACTION
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES

MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: eng

1054. Read, D. C (1976). Soil pest management as influenced by method of application of insecticides. *Proceedings of the Annual Meeting - Agricultural Pesticide Society* 22: 37-42.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1976:505350
Chemical Abstracts Number: CAN 85:105350
Section Code: 5-4
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
CAS Registry Numbers: 52-68-6; 86-50-0; 88-85-7; 114-26-1; 115-90-2; 298-02-2; 298-04-4; 327-98-0; 732-11-6; 944-22-9; 2921-88-2; 2984-64-7; 7122-04-5; 10265-92-6; 13071-79-9; 14816-20-7; 21548-32-3; 21609-90-5; 22224-92-6; 23505-41-1; 25311-71-1; 30087-47-9; 60181-81-9 Role: BIOL (Biological study) (persistence of, in soil) Of 24 insecticides tested by soil-surface application, mixed in upper 3 cm of soil, or banded 3 cm below the soil surface, only AC 64475 [21548-32-3], dinoseb [88-85-7], and phosmet [732-11-6] showed similar residual toxicity patterns by all the application methods. The remaining 21 compds. were less persistent when applied to soil surface indicating that photodegrdn. proceeded more rapidly than degradn. by soil microorganisms. The most effective compds. were those which were systemic in action or gradually moved upward toward the soil surface. [on SciFinder (R)] 0065-4485 insecticide/ persistence/ soil

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Chem Codes: Chemical of Concern: TBF,VCZ,TBC,PSM,MLT,MVP,MTL,HCCH,IXF,IPD,ILL,EPTC,24DP,ACO,AZ,DFPM,DCZ,DS Rejection Code: REFS CHECKED/REVIEW.

1056. Reddy, Micaela B. and Bunge, Annette (2002). Dermal absorption from pesticide residues: data analysis. 55-78.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:790768
Chemical Abstracts Number: CAN 140:123783
Section Code: 4-1
Section Title: Toxicology

Document Type: Conference
Coden: 69EQA3
Language: written in English.
Index Terms: Ecotoxicity; Environmental pollution; Pesticides; Risk assessment; Simulation and Modeling; Skin; Temperature effects (dermal absorption from pesticide residues and data anal.); Environmental pollution (pesticide; dermal absorption from pesticide residues and data anal.); Biological transport (uptake; dermal absorption from pesticide residues and data anal.)
CAS Registry Numbers: 58-89-9 (Lindane); 78-48-8 (Tribufos); 86-50-0 (Azinphosmethyl); 298-04-4 (Disulfoton); 732-11-6 (Phosmet); 759-94-4 (EPTC); 2212-67-1 (Molinate); 7786-34-7 (Mevinphos); 28249-77-6 (Thiobencarb); 34256-82-1 (Acetochlor); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51338-27-3 (Diclofop-methyl); 83657-24-3 (Diniconazole); 141112-29-0 (Isoxaflutole); 618446-52-9 Role: ADV (Adverse effect, including toxicity), ANT (Analyte), POL (Pollutant), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence) (dermal absorption from pesticide residues and data anal.)
Citations: 1) Zendzian, R; Personal communication 2000
Citations: 2) Zendzian, R; Human and Domestic Animals:Dermal Absorption of Pesticides 1994
Citations: 3) Zendzian, R; Am Ind Hyg Assoc J 2000, 61
Citations: 4) Hansch, C; Hydrophobic, electronic, and steric constants 1995
Citations: 5) Reddy, M; Ph D Thesis, Colorado School of Mines 2000
Citations: 6) Extoxnet; Pesticide information profile:Imazalil, 1999
Citations: 7) Tomlin, C; The Pesticide Manual 1997
Citations: 8) Potts, R; Pharm Res 1992, 9, 663
Citations: 9) Bunge, A; Exposure to Contaminants in Drinking Water:Estimating Uptake through the Skin 1999, 137
Citations: 10) Vecchia, B; M S Thesis, Colorado School of Mines 1997 In its regulatory role the United States Environmental Protection Agency is the repository for a large collection of dermal absorption data supplied by pesticide registrants. Many of these studies followed a common procedure measuring dermal absorption in vivo into lab. rats as a function of both the amt. of pesticide applied and the exposure time. In this chapter, example registrant data are presented and analyzed. For the 18 pesticides examd. in this study, the relationship between systemic absorption and applied dose was different for pesticides that are liqs. and those that are solids at skin temp. For both groups, the amt. of pesticide in skin increased proportionally with applied dose. Systemic absorption of liq. pesticides also increased with applied dose. However, for solid pesticides systemic absorption was a weaker function of applied dose and in some cases was independent of applied dose. Finally, a simple method for estg. the max. systemic absorption using a pesticide's permeability coeff. and water soly. under-estd. the amt. of dermal absorption for most doses of many of the pesticides investigated in this study. [on SciFinder (R)] method/ dermal/ absorption/ pesticide/ residue/ data/ analysis;/ skin/ uptake/ pesticide/ residue/ analysis/ method/ data

1057. Regen, David M. (1984). Myocardial stress equations: Fiberstresses of the prolate spheroid. *Journal of Theoretical Biology* 109: 191-215.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: MODELING.

There are occasions in physiological research and medical practice where it is desirable to estimate the average fiberstress in a chamber wall, knowing only the pressure and dimensions. Because the contribution of a strained wall element to pressure depends on its location whereas its contribution to average stress is independent of location, an equation of this kind must involve an assumption about the stress distribution. When applied to a particular chamber, it will give an exact result only if the chamber's stress distribution is in some sense like that of the model for which the equation was derived. Since the fibers of biological chambers are continually being deposited and resorbed, they tend to exhibit similar stretches under the average conditions of the chamber. To the extent that this is so, P = (2/3) [sigma]v ln V0/Vc, is the best simple fiberstress equation for biological chambers. (P = transmural pressure, [sigma]v = volume-averaged fiberstress, V0 = volume enclosed by outside surface, Vc = cavity volume). It expresses the pressure-dimension-average-

fiberstress relation of a chamber of any shape whose stresses exhibit the simplest possible distribution. One can add a term to the right side to account for the influence of stress profile complexities. That term takes the form of a moment whose value is zero at one state of distension. This "stress moment" expresses the unequal weighting of complexities on the two sides of the midwall isobar. Judging from the sarcomere length profile of the left ventricular wall, the stress moment is zero and the average fiberstress equation above is exact for average developed stress (without a second term) when cavity volume is somewhere near end-diastolic. Moreover, the departures from the relation (the effects of stress moment) are small so long as the inner and outer stresses do not differ by a factor greater than two.
http://www.sciencedirect.com/science/article/B6WMD-4KCPS8X-3/2/a2aae70ccb02a4fcb244609599bc6333

1058. Reidys, Christian, Stadler, Peter F., and Schuster, Peter (1997). Generic properties of combinatory maps: Neutral networks of RNA secondary structures. *Bulletin of Mathematical Biology* 59: 339-397.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Random graph theory is used to model and analyse the relationships between sequences and secondary structures of RNA molecules, which are understood as mappings from sequence space into shape space. These maps are non-invertible since there are always many orders of magnitude more sequences than structures. Sequences folding into identical structures form neutral networks. A neutral network is embedded in the set of sequences that are compatible with the given structure. Networks are modeled as graphs and constructed by random choice of vertices from the space of compatible sequences. The theory characterizes neutral networks by the mean fraction of neutral neighbors ([lambda]). The networks are connected and percolate sequence space if the fraction of neutral nearest neighbors exceeds a threshold value ([lambda] > [lambda]*). Below threshold ([lambda]<[lambda]*), the networks are partitioned into a largest "giant" component and several smaller components. Structures are classified as "common" or "rare" according to the sizes of their pre-images, i.e. according to the fractions of sequences folding into them. The neutral networks of any pair of two different common structures almost touch each other, and, as expressed by the conjecture of shape space covering sequences folding into almost all common structures, can be found in a small ball of an arbitrary location in sequence space. The results from random graph theory are compared to data obtained by folding large samples of RNA sequences. Differences are explained in terms of specific features of RNA molecular structures.
http://www.sciencedirect.com/science/article/B6WC7-4B61WRB-7/2/2453c218fc5efddfad7243f43f08489b

1059. Reilly, C. C., Taylor, K. C., and Hotchkiss, M. W. (2004). A Comparison of Airblast and Air Assisted Rotary Atomizer Spray Technologies in Peach Production. *Horttechnology* 14: 555-559 .
Chem Codes: Chemical of Concern: PSM,AZX,PCZ,SFR,Captan Rejection Code: NO EFFECT.

1060. Reis, P. R., Chiavegato, L. G., Moraes, G. J., Alves, E. B., and Sousa, E. O. (1998). Agrochemical Selectivity to Predaceous Mite Iphiseiodes zuluagai Denmark & Muma (Acari: Phytoseiidae) (Seletividade de Agroquimicos ao Acaro Predador Iphiseiodes zuluagai Denmark & Muma (Acari: Phytoseiidae)). *An.Soc.Entomol.Bras.* 27: 265-274 (SPA) (ENG ABS).
Chem Codes: EcoReference No.: 64252
Chemical of Concern: Captan,PSM Rejection Code: NON-ENGLISH.

1061. Reis, P. R., Chiavegato, L. G., Moraes, G. J., Alves, E. B., and Sousa, E. O. (1998). Agrochemical Selectivity to Predaceous Mite Iphiseiodes Zuluagai Denmark and Muma (Acari: Phytoseiidae). *Anais da sociedade entomologica do brasil* 27: 265-274.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The side-effects of agrochemical to Iphiseiodes zuluagai Denmark & Muma (Acari: Phytoseiidae) were studied in laboratory using the residual contact spray method in glass surface. Forty-two plant protection products, used in Brazilian citrus orchards, were tested. Mite mortality and fecundity were evaluated for eight days.

Tested products were ranked in toxicity classes, according to IOBC system, by the total effect (combination of mortality and reproduction effect). The results showed that ca. 26% of the tested products were harmless (captan, clofentezine, fenbutatin oxide, fosetyl, hexythiazox, copper hydroxide, naled, copper oxychloride, cuprous oxide and tetradifon), 14% slightly harmful (abamectin, chlorothalonil, copper sulphate, thiophanatemethyl (PM) and ziram), 7% moderately harmful (sulfur, parathion-methyl and thiophanate-methyl (SC)) and 52% harmful to the mite (acrinathrin, amitraz, azinphos-ethyl, azocyclotin, benomyl, bifenthrin, bromopropylate, carbaryl,
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL, BIOLOGICAL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ARTHROPODS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ARTHROPODS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Biological Control
KEYWORDS: Economic Entomology-Integrated Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Acarina
LANGUAGE: por

1062. Remondelli, Paolo, Mugnoz, Bruno, Della Morte, Rossella, Belisario, Maria Antonietta, Staiano, Norma, and De Lorenzo, Francesco (1986). Evaluation of the mutagenic potential of thirteen pesticides by measuring both his+ and HGPRT-deficient mutants in Salmonella typhimurium. *Medecine, Biologie, Environnement* 14: 377-86.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1987:453906
Chemical Abstracts Number: CAN 107:53906
Section Code: 4-6
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Herbicides; Insecticides; Pesticides (as mutagens, in Salmonella typhimurium); Mutagens (fungicides and herbicides and insecticides as, in Salmonella typhimurium)

CAS Registry Numbers: 51-03-6; 145-73-3 (Endothall); 154-36-9; 470-90-6 (Chlorfenvinphos); 534-52-1 (DNOC); 732-11-6 (Imidan); 944-22-9 (Fonofos); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 2008-41-5 (Butylate); 2921-88-2 (Chlorpyrifos); 8018-01-7 (Vondozeb); 14484-64-1 (Ferbam) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (mutagenicity of, in Salmonella typhimurium) The mutagenic activity of 13 pesticides was evaluated by using the std. reversion test and a quant. forward mutation assay in Salmonella typhimurium. The 4 pesticides DNOC(I), Imidan, ferbam, and Trifocide yielded a pos. response. The effect of S9 fractions prepd. from different mammalian species (rat, hamster, and mouse) on their mutagenicity was assessed. [on SciFinder (R)] 0302-0800 pesticide/ mutagenicity/ Salmonella;/ insecticide/ mutagenicity/ Salmonella;/ herbicide/ mutagenicity/ Salmonella;/ fungicide/ mutagenicity/ Salmonella

1063. Rice, Larry Grant (1984). Rapid separation of pesticides by high-performance liquid chromatography with 3-mm columns. *Journal of Chromatography* 317: 523-6.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1985:74000
Chemical Abstracts Number: CAN 102:74000
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, by HPLC, three-micrometer columns in); Chromatography (high-performance, of pesticides, three-micrometer columns in)
CAS Registry Numbers: 56-72-4; 732-11-6; 2921-88-2; 7700-17-6; 33089-61-1; 52645-53-1 Role: ANT (Analyte), ANST (Analytical study) (detn. of, by HPLC, three-micrometer columns in) A HPLC procedure was developed to quantitate the active ingredient in dipping vat samples contg. coumaphos (CoRal) [56-72-4], phosmet (Prolate) [732-11-6], crotoxyphos (Ciodrin) [7700-17-6], synthetic permethrin (Atroban) [52645-53-1], amitraz (Taktic) [33089-61-1] or chlorpyrifos (Dursban) [2921-88-2]. The procedure, based on chromatog. with a short column (30 * 4.6 mm) packed with 3-mm particles, allows 3 times as many samples to be analyzed per unit time as chromatog. with a conventional column (100 * 5.0 mm) with 5-mm particles. This increase in productivity was accomplished with normal operating conditions and std. equipment. There was also a corresponding redn. in solvent vol. Precision, calcd. from peak areas, was <1% relative std. deviation, while the min. detectable amt. of amitraz decreased from 700 to 300 pg. [on SciFinder (R)] 0021-9673 pesticide/ HPLC

1064. Richards, B. K., Steenhuis, T. S., Peverly, J. H., and McBride, M. B. (2000). Effect of sludge-processing mode, soil texture and soil pH on metal mobility in undisturbed soil columns under accelerated loading. *Environmental Pollution* 109: 327-346.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The effect of sludge processing (digested dewatered, pelletized, alkaline-stabilized, composted, and incinerated), soil type and initial soil pH on trace metal mobility was examined using undisturbed soil columns. Soils tested were Hudson silt loam (Glossaquic Hapludalf) and Arkport fine sandy loam (Lamellic Hapludalf), at initial pH levels of 5 and 7. Sludges were applied during four accelerated cropping cycles (215 tons/ha cumulative application for dewatered sludge; equivalent rates for other sludges), followed by four post-application cycles. Also examined (with no sludge applications) were Hudson soil columns from a field site that received a heavy loading of sludge in 1978. Romaine (Lactuca sativa) and oats (Avena sativa) were planted in alternate cycles, with oats later replaced by red clover (Trifolium pratense). Soil columns were watered with synthetic acid rainwater, and percolates were analyzed for trace metals (ICP spectroscopy), electrical conductivity and pH. Percolate metal concentrations varied with sludge and soil treatments. Composted sludge and ash had the lowest overall metal mobilities. Dewatered and pelletized sludge had notable leaching of Ni, Cd and Zn in Arkport soils, especially at low pH. Alkaline-stabilized sludge had the widest range of percolate metals (relatively insensitive to soils) including Cu, Ni, B and Mo. Old site column percolate concentrations showed good agreement with previous field data. Little leaching of P was observed in all cases. Cumulative percolate metal losses for all treatments were low relative to total applied metals. Leachate and soil pH were substantially depressed in dewatered and pelletized sludge soil columns and increased for alkaline-stabilized and ash treatments. Sewage sludge/ Trace metals/ Preferential flow/ Metal mobility/ Leaching http://www.sciencedirect.com/science/article/B6VB5-401RXD1-M/2/a14f6e08a24eb05d136456d313c44d01

1065. Richards, Brian K., Steenhuis, Tammo S., Peverly, John H., and McBride, Murray B. (1998). Metal mobility at an old, heavily loaded sludge application site. *Environmental Pollution* 99: 365-377. Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

This study was undertaken to determine the present distribution and mobility of sludge-applied metals at an old land application site. Trace metals concentrations were determined for soils (using 4 M HNO3 extracts), soil leachates (collected with passive wick lysimeters over a 2.5-year period), and plant tissue from a field site which received a heavy loading of wastewater sludge in 1978 and an adjacent control plot. Blue dye was used to indicate preferential percolate flowpaths in the sludge plot soil for sampling and comparison with bulk soil metals concentrations. After nearly 20 years, metals in the sludge plot leachate were found at significantly greater concentrations than in the control plot, exceeding drinking water standards for Cd, Ni, Zn, and B. Annual metals fluxes were only a fraction of the current soil metal contents, and do not account for the apparent substantial past metals losses determined in a related study. Elevated Cd, Cu, and Ni levels were found in grass growing on the sludge plot. Despite heavy loadings, fine soil texture (silty clay loam) and evidence of past and ongoing metals leaching, examination of the bulk subsoil indicated no statistically significant increases in metals concentrations (even in a calcareous subsoil horizon with elevated pH) when comparing pooled sludge plot soil profiles with controls. Sampling of dyed preferential flow paths in the sludge plot detected only slight increases in several metals. Preferential flow and metal complexation with soluble organics apparently allow leaching without easily detectable readsorption in the subsoil. The lack of significant metal deposition in subsoil may not be reliable evidence for immobility of sludge-applied metals. Sewage sludge/ Trace metals/ Preferential flow/ Metal mobility/ Leaching http://www.sciencedirect.com/science/article/B6VB5-3TK65SV-B/2/46425f1f9ddf202189dd8d66d4162485

1066. Richieri, Gary V., Akeson, Stephen P., and Mel, Howard C. (1985). Measurement of biophysical properties of red blood cells by resistance pulse spectroscopy: volume, shape, surface area, and deformability. *Journal of Biochemical and Biophysical Methods* 11: 117-131. Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

This paper presents a simple, new approach to the determination of size, shape, surface area, and deformability information for cells, notably red blood cells. The results are obtained by combining experimental measurements from resistive pulse spectroscopy (an extension of electronic cell-sizing methodology) with theoretical calculations for model systems. Assuming constancy of surface area and approximating red cell shapes by both prolate and oblate ellipsoids of revolution, values are determined for cell shape factor and volume under a variety of conditions. For red blood cells under low-stress conditions, shape factor, volume, and surface area results are found to be consistent with those available from the literature, when the oblate model is used. Tha applicability of this approach for determination of red cell properties under altered conditions is demonstrated by results for cell volume, at varying osmotic pressure and mechanical shear (tensil) stress. By qunatitating the change in cell shape with stress, a new numerical scale for measuring cell deformability is also obtained, and data are presented on its variation for red cells at different osmolalities, over the range of 140 to 500 mOsm. electronic cell cizing/ erythrocytes/ shape/ surface area/ volume/ deformability http://www.sciencedirect.com/science/article/B6T28-

47NWCVH-KS/2/06a1898dda49d382b6c54c8f04d975cf

1067. Richter, D. D., Johnson, D. W., Craft, C. B., Kelly, J. M., and Todd, D. E. (Effects of Acid Precipitation on Soil Acidity and Base-Cation Status of Infertile Forest Soils in Eastern Tennessee. *Govt reports announcements & index (gra&i), issue 04, 1984*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: In three deciduous forests with soils classified as sensitive to acid rain, soil chemistry and nutrient cycling were examined to evaluate effects of acid precipitation on soil acidity, leaching, and supplies of base cations. Results indicated that strong acidity in precipitation (pH 4.3 to 4.4 to 0.6 keg ha exp -1 year exp -1) is rapidly neutralized by canopies and forest floors, before rainwater percolates beyond surficial layers of forest soil. Annual natural acid production exceeded H exp + -ion inputs in acid precipitation by at least 2.8 times at a study site where estimates were made of HCO sub 3- leaching and ion accumulation in aboveground biomass. The pH of solutions throughout soil profiles averaged 5.4 to 6.0, indicating that forest soils serve as sinks of enormous capacity for H exp + -ions of external and internal origin. In the surface 50 to 80 cm of oil, exchangeable base cations that are immediately available for plant uptake are more than two orders of magnitude greater than an
KEYWORDS: Acid Rain
KEYWORDS: Forests
KEYWORDS: Soils

1068. Ripley, Brian D. and Braun, Heinz E (1983). Retention time data for organochlorine, organophosphorus, and organonitrogen pesticides on SE-30 capillary column and application of capillary gas chromatography to pesticide residue analysis. *Journal - Association of Official Analytical Chemists* 66: 1084-95.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1983:589593
Chemical Abstracts Number: CAN 99:189593
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, by capillary gas chromatog., retention time for); Chromatography (of pesticides, retention time in)
CAS Registry Numbers: 50-29-3; 52-68-6; 53-19-0; 55-38-9; 56-38-2; 56-72-4; 58-89-9; 60-51-5; 60-57-1; 62-73-7; 63-25-2; 72-20-8; 72-43-5; 72-54-8; 72-55-9; 76-44-8; 78-30-8; 78-34-2; 82-68-8; 86-50-0; 87-62-7; 92-52-4D; 93-71-0; 95-06-7; 95-76-1; 97-17-6; 99-30-9; 101-21-3; 107-49-3; 114-26-1; 115-32-2; 115-90-2; 116-29-0; 117-18-0; 118-74-1; 121-29-9; 121-75-5; 122-14-5; 122-34-9; 122-39-4; 126-75-0; 133-06-2; 133-07-3; 139-40-2; 143-50-0; 150-68-5; 297-97-2; 298-00-0; 298-02-2; 298-03-3; 298-04-4; 299-84-3; 299-85-4; 299-86-5; 300-76-5; 309-00-2; 311-45-5; 314-40-9; 319-84-6; 319-85-7; 327-98-0; 330-54-1; 330-55-2; 333-41-5; 470-90-6; 485-31-4; 563-12-2; 732-11-6; 759-94-4; 786-19-6; 789-02-6; 834-12-8; 886-50-0; 944-21-8; 944-22-9; 950-37-8; 954-21-2; 957-51-7; 959-98-8; 962-58-3; 1022-22-6; 1024-57-3; 1031-07-8; 1113-02-6; 1114-71-2; 1134-23-2; 1194-65-6; 1563-66-2; 1582-09-8; 1610-17-9; 1610-18-0; 1634-78-2; 1836-75-5; 1897-45-6; 1912-24-9; 1918-16-7; 1929-77-7; 1982-47-4; 2008-41-5; 2032-59-9; 2032-65-7; 2104-96-3; 2132-70-9; 2212-67-1; 2303-16-4; 2303-17-5; 2310-17-0; 2385-85-5; 2425-06-1; 2439-01-2; 2463-84-5; 2588-03-6; 2588-04-7; 2588-06-9; 2600-69-3; 2921-88-2; 3060-89-7; 3397-62-4; 3424-82-6; 3689-24-5; 3761-41-9; 3761-42-0; 3983-45-7; 4685-14-7; 4695-13-0; 5103-71-9; 5234-68-4; 5566-34-7; 5598-13-0; 5598-15-2; 5902-51-2; 6099-79-2; 6190-65-4; 6552-12-1; 6552-21-2; 7287-19-6; 7786-34-7; 8065-36-9; 10265-92-6; 13071-79-9; 13171-21-6; 13360-45-7; 13749-94-5; 14255-72-2; 15972-60-8; 16655-82-6; 16709-30-1; 17040-

19-6; 17356-42-2; 21087-64-9; 21609-90-5; 21725-46-2; 22224-92-6; 22248-79-9; 22781-23-3; 22936-86-3; 23103-98-2; 23468-87-3; 23505-41-1; 25311-71-1; 27304-13-8; 29091-05-2; 30560-19-1; 30614-22-3; 31120-85-1; 33213-65-9; 34014-18-1; 36378-61-7; 36734-19-7; 39765-80-5; 39801-14-4; 43121-43-3; 50471-44-8; 51218-45-2; 51235-04-2; 51630-58-1; 52315-07-8; 52645-53-1; 54864-61-8; 55219-65-3; 57531-87-0; 57646-30-7; 57837-19-1; 58810-48-3; 60683-29-6; 67932-71-2; 68359-37-5; 70622-00-3; 71626-11-4; 76274-46-9; 87746-44-9; 87746-45-0; 87746-46-1; 87764-37-2 Role: ANT (Analyte), ANST (Analytical study) (detn. of, by capillary gas chromatog., retention time for) Relative retention time data for 194 pesticides and metabolites are reported for a 15 m SE-30 capillary gas chromatog. column under a single temp.-programmed regime. The reproducibility of retention time and quantitation is discussed and the performance of electron capture and Ni thermionic detectors is evaluated in relation to pesticide residue anal. [on SciFinder (R)] 0004-5756 pesticide/ gas/ chromatog/ retention/ time;/ chlorine/ pesticide/ gas/ chromatog;/ phosphorus/ pesticide/ gas/ chromatog;/ nitrogen/ pesticide/ gas/ chromatog

1069. Ripley, Brian D., Lissemore, Linda I., Leishman, Pamela D., Denomme, Mary Anne, and Ritter, Leonard (2000). Pesticide residues on fruits and vegetables from Ontario, Canada, 1991-1995. *Journal of AOAC International* 83: 196-213.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:99577
Chemical Abstracts Number: CAN 132:221623
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Apple; Apricot; Asparagus; Bean; Blueberry; Broccoli; Cabbage; Carrot; Cauliflower; Celery; Cherry; Cucumber; Food contamination; Fruit; Grape; Lettuce; Mushroom; Nectarine; Onion; Parsnip; Peach; Pear; Pepper; Pesticides; Plum; Potato; Radish; Raspberry; Rhubarb; Strawberry; Tomato; Vegetable (pesticide residues on fruits and vegetables from Ontario, Canada, 1991-1995)
CAS Registry Numbers: 56-38-2 (Parathion); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 99-30-9 (Dicloran); 101-21-3 (CIPC); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 121-75-5 (Malathion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 133-07-3 (Folpet); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 1563-66-2 (Carbofuran); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 5178-19-8; 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 16752-77-5 (Methomyl); 23103-98-2 (Pirimicarb); 30560-19-1 (Acephate); 33086-18-9 (SDDT); 36734-19-7 (Iprodione); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 57837-19-1 (Metalaxyl); 88671-89-0 (Myclobutanil) Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (pesticide residues on fruits and vegetables from Ontario, Canada, 1991-1995)
Citations: 1) Ritter, L; Cancer 1997, 80, 1187
Citations: 2) Miller, A; Eur J Cancer 1994, 30A, 207
Citations: 3) OMAFRA; 1994 Agricultural Statistics for Ontario 1994
Citations: 4) Frank, R; J Assoc Off Anal Chem 1987, 70, 1081
Citations: 5) Frank, R; Bull Environ Contam Toxicol 1987, 39, 272
Citations: 6) Frank, R; Food Addit Contam 1989, 6, 227
Citations: 7) Frank, R; Food Addit Contam 1990, 7, 545
Citations: 8) Frank, R; Food Addit Contam 1990, 5, 637
Citations: 9) Health and Welfare Canada; Food and Drugs Act and Regulations 1991
Citations: 10) US Food and Drug Administration; Pesticide Analytical Manual 1994, I
Citations: 11) OMAFRA; 1994-1995 Vegetable Production Recommendations 1994
Citations: 12) OMAFRA; 1994-1995 Fruit Production Recommendations 1994
Citations: 13) Luke, M; J Assoc Off Anal Chem 1975, 58, 1020

Citations: 14) Lee, S; Fresenius Z Anal Chem 1991, 339, 376
Citations: 15) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 16) US Department of Agriculture; Pesticide Data Program, http://www.ams.usda.gov/science/pdp/download.htm 1996
Citations: 17) Mills, P; J Assoc Off Anal Chem 1972, 55, 39
Citations: 18) Braun, H; J Assoc Off Anal Chem 1982, 65, 685
Citations: 19) Lubkowitz, J; J Agric Food Chem 1973, 21, 143
Citations: 20) Pickering Laboratories, Inc; User's Manual, Carbamate Post-Column Analysis Module 1992
Citations: 21) Krause, R; J Assoc Off Anal Chem 1980, 63, 1114
Citations: 22) Ripley, B; J Assoc Off Anal Chem 1983, 66, 1084
Citations: 23) Pease, H; J Assoc Off Anal Chem 1957, 40, 1113
Citations: 24) Ripley, B; Bull Environ Contam Toxicol 1979, 22, 182
Citations: 25) Hunter, C; Survey of Pesticide Use in Ontario, 1993 1994, Report No 94-01
Citations: 26) Frank, R; Food Contamination from Environmental Sources 1990
Citations: 27) National Academy of Sciences; Pesticides in the Diets of Infants and Children 1993
Citations: 28) Elderkin, S; Forbidden Fruit: Illegal Pesticides in the US Food Supply 1995
Citations: 29) US Food and Drug Administration; http://vm.cfsan/fda.gov/~dms/pesrpts.htm 1996
Citations: 30) Neidert, E; J AOAC Int 1996, 79, 549
Citations: 31) Neidert, E; J AOAC Int 1994, 77, 18
Citations: 32) Schattenberg, H; J AOAC Int 1992, 75, 925
Citations: 33) Kuchler, F; Pesticide Residues: Reducing Dietary Risks 1996, Report No 728
Citations: 34) Roy, R; J AOAC Int 1995, 78, 930
Citations: 35) Roy, R; J AOAC Int 1997, 80, 883
Citations: 36) Coscolla, R; Pestic Sci 1997, 50, 155
Citations: 37) Dejonckheere, W; J AOAC Int 1996, 79, 97 For the 5-yr period 1991 to 1995, 1536 vegetable and 802 fruit samples were analyzed. The purpose of this study was to det. if pesticides were present on Ontario-produced fruits and vegetables, and if so, to det. if residues violated max. residue limits (MRLs). Overall, 31.5% of the samples had no detectable pesticide residues, whereas 68.5% contained one or more residues. Most of the residues were present at very low concns.; 48% of the detections were <0.1 ppm (ppm), and 86% were <1 ppm. However, violations of MRL were obsd. in only 3.2% of the vegetable samples and 3.1% of the fruit samples. In addn., 4.8% of the samples contained a \"tech.\" violation, i.e., there was no specified MRL for the pesticide-commodity combination and the residues exceeded 0.1 ppm. Of the detectable residues, 63% were <10% of the MRL, whereas 89% were <50% of the MRL. More fruit samples (91.4%) had a detectable residue, compared with vegetable samples (56.6%). Fruit is often treated close to harvest or post harvest to ensure that wholesome produce reaches the consumer. Forty-six percent of the samples contained 2 or more residues, and 2% of all samples had more than 5 different pesticides detected; fruit samples tended to have more multiple residues. The most frequently found pesticides were captan, the dithiocarbamate fungicides, endosulfan, azinphos-Me, phosmet, parathion, and iprodione. These pesticides were also used in the greatest quantity for crop prodn. Overall, the data agree fairly closely with those reported for the U.S. Department of Agriculture Pesticide Data Program because the 2 programs have similar anal. goals and objectives. [on SciFinder (R)] 1060-3271 pesticide/ residue/ fruit/ vegetable/ Canada

1070. Ripley, Brian D., Wilkinson, Robert J., and Chau, Alfred S. Y (1974). Multiresidue analysis of fourteen organophosphorus pesticides in natural waters. *Journal - Association of Official Analytical Chemists* 57: 1033-42.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1975:39314
Chemical Abstracts Number: CAN 82:39314
Section Code: 5-1
Section Title: Agrochemicals

Document Type: Journal
Language: written in English.
Index Terms: Insecticides (phosphorus-contg., detn. of, in water, by gas chromatog.)
CAS Registry Numbers: 86-50-0; 298-02-2; 298-04-4; 299-86-5; 732-11-6; 2642-71-9 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in water, by gas chromatog.); 7732-18-5 Role: AMX (Analytical matrix), ANST (Analytical study) (insecticide detn. in, by gas chromatog.) A gas chromatog. method was developed for the detn. of 14 organophosphorus insecticides in natural waters at <1 ppb. Using C_6H_6, extn., recoveries were 95-110% for 13 compds., and av. 115% for Ruelene (crufomate)(I) [299-86-5]. Isothermal gas-liq. chromatog. used 11% (wt./wt.) OV-17/QF-1 on 80-100 mesh Chromosorb Q at 200 Deg with 80 ml N/min as the carrier and 150 ml H, 20 ml O, and 10 ml air/min for the dual flame photometric detector. The detection limit ranged from 0.005 ppb for Thimet (phorate) [298-02-2] and Di-Syston (disulfoton) [298-04-4] to 0.10 ppb for Imidan [732-11-6], Guthion (azinphosmethyl) [86-50-0], and Ethyl Guthion (azinphosethyl) [2642-71-9]. [on SciFinder (R)] 0004-5756 gas/ chromatog/ organophosphorus/ insecticide;/ water/ insecticide/ gas/ chromatog

1071. Rivera, J. , Caixach, J., Ventura, F., and Espadaler, I (1985). Herbicide and surfactant spill analysis of an industrial waste dumping at Llobregat River (Spain). *Chemosphere* 14: 395-402.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1985:458931
Chemical Abstracts Number: CAN 103:58931
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 60
Document Type: Journal
Language: written in English.
Index Terms: Water pollution (by pesticides and surfactants, of Llobregat River, Spain); Pesticides (water pollution by, of Llobregat River, Spain); Surfactants (water pollution by, of Llobregat river, Spain)
CAS Registry Numbers: 112-30-1; 112-39-0; 112-53-8; 112-53-8D; 112-61-8; 112-72-1; 117-81-7; 122-34-9; 122-99-6; 123-01-3; 131-11-3; 143-07-7; 152-20-5; 298-00-0; 732-11-6; 1330-20-7; 1582-09-8; 1912-24-9; 10605-21-7; 17804-35-2; 25154-52-3; 25154-52-3D; 52315-07-8; 54644-60-9 Role: POL (Pollutant), OCCU (Occurrence) (water pollution by, of Llobregat River, Spain) Com. herbicides, atrazine [1912-24-9], trifluralin [1582-09-8], surfactants and related compds. such as dodecylbenzene [123-01-3], long chain alcs., and nonylphenol [112-53-8] have been found in the Llobregat River, Spain, and are suspected of causing environmental impacts such as fish mortality and groundwater pollution of riparian wells. The pollutants come from industrial wastes. [on SciFinder (R)] 0045-6535 pollution/ river/ water/ Llobregat/ Spain;/ herbicide/ surfactant/ pollution/ Llobregat/ River

1072. Roach, John A. G. and Andrzejewski, Denis (1987). Analysis for pesticide residues by collision-induced fragmentation. *Chemical Analysis (New York, NY, United States)* 91: 187-210.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1988:20614
Chemical Abstracts Number: CAN 108:20614
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.

Index Terms: Food analysis; Lettuce; Strawberry (pesticides contg. phosphorus detection in, by mass spectroscopy); Insecticides; Pesticides (phosphorus-contg., detection of, by tandem mass spectroscopy, food anal. in relation to); Mass spectroscopy (tandem, of pesticides contg. phosphorus)
CAS Registry Numbers: 56-38-2 (Parathion); 60-51-5 (Dimethoate); 86-50-0 (Azinphos-methyl); 122-14-5 (Fenitrothion); 298-00-0 (Methyl parathion); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 311-45-5 (Paraoxon); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6; 961-22-8 (Azinphos-methyl oxygen analog); 1113-02-6 (Omethoate); 1634-78-2 (Malaoxon); 2275-14-1 (Phenkapton); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3983-45-7; 5598-13-0 (Chlorpyrifos-methyl); 5598-15-2; 7786-34-7 (Mevinphos); 112057-97-3 Role: ANT (Analyte), ANST (Analytical study) (detection of, by tandem mass spectroscopy, food anal. in relation to) Tandem mass spectrometry (MS/MS) was applied to a range of organophosphorus pesticides (8 phosphorodithiolates, 11 phosphorothioates, 4 phosphates). Tabulations are given of the 10 most abundant ions obsd. by mass-analyzed ion kinetic energy spectrometry (MIKES), collision-induced dissocn. (CID)-MIKES, electron-ionization collisionally activated decompn. (EI-CAD) MS/MS, and chem.-ionization (CI)-CAD MS/MS. Fragmentation patterns for each of the 3 main groups of pesticides are discussed. Residue anal. for omethoate, parathion, and azinphos-Me present at 0.2 ppm in lettuce and strawberries was attempted by CI-CAD MS/MS. With crude exts., confirmation of identity was achieved only for omethoate in strawberries. Parathion, but not azinphos-Me, was confirmed after sample clean-up. [on SciFinder (R)] 0069-2883 pesticide/ detn/ food/ tandem/ mass/ spectroscopy;/ insecticide/ phosphorus/ mass/ spectroscopy

1073. Robertson, D. E., Toste, A. P., Abel, K. H., and Brodzinski, R. L. (Radionuclide Migration in Groundwater. Annual Progress Report for 1982. *Govt reports announcements & index (gra&i), issue 10, 1984*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: Research has continued at a low-level waste disposal facility to characterize the physicochemical species of radionuclides migrating in groundwater. This facility consists of an unlined basin and connecting trench which receives effluent water containing low levels of a wide variety of fission and activation products and trace amounts of transuranic radionuclides. The effluent water percolates through the soil and a small fraction of it emerges at seepage springs located some 260 meters from the trench. The disposal basin and trench are very efficient in retaining most of the radionuclides, but trace amounts of a number of radionuclides existing in mobile chemical forms migrate in the groundwater from the trench to the springs. This facility provides the opportunity for characterizing the rates and mechanisms of radionuclide migration in groundwaters, identifying retardation processes, and validating geochemical models.
KEYWORDS: Ground water
KEYWORDS: Radionuclide migration
KEYWORDS: Radioactive waste facilities
KEYWORDS: Low-level radioactive wastes

1074. Robinson, Michelle T. and Hoffmann, Ary A (2001). The pest status and distribution of three cryptic blue oat mite species (Penthaleus spp.) and redlegged earth mite (Halotydeus destructor) in southeastern Australia. *Experimental and Applied Acarology* 25: 699-716.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:537379
Chemical Abstracts Number: CAN 137:321540
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.

Index Terms: Insecticide resistance (of Penthaleus spp. and Halotydeus destructor mites in southeastern Australia); Halotydeus destructor; Penthaleus; Penthaleus falcatus; Penthaleus major (pest status, distribution, and pesticide resistance in southeastern Australia); Avena sativa; Canola; Medicago sativa; Pasture; Triticum aestivum (pest status, distribution, and pesticide resistance of Penthaleus spp. and Halotydeus destructor mites in southeastern Australia on)
CAS Registry Numbers: 60-51-5 (Dimethoate); 115-29-7 (Endosulfan); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 2921-88-2 (Chlorpyrifos); 67375-30-8; 82657-04-3 (Bifenthrin) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (resistance of Penthaleus spp. and Halotydeus destructor mites in southeastern Australia to)
Citations: Annells, A; Proceedings of the Second National Workshop on Redlegged Earth Mite 1994, 29
Citations: Gillespie, D; Proceedings of a National Workshop on Redlegged Earth Mite 1991, 72
Citations: Halliday, R; Plant Protection Quarterly 1991, 6, 162
Citations: Hoffmann, A; Experimental and Applied Acarology 1997, 21, 151
Citations: Jiang, Y; Proceedings of the Second National Workshop on Redlegged Earth Mite 1994, 14
Citations: Lake, A; Plant Protection Quarterly 1995, 10, 45
Citations: Maclennan, K; Entomologia Experimentalis et Applicata 1998, 86, 319
Citations: McDonald, G; Plant Protection Quarterly, 10, 52
Citations: Norris, K; No publication given 1938, 84, 1
Citations: Qin, T; Plant Protection Quarterly 1995, 10, 50
Citations: Qin, T; Bulletin of Entomological Research 1996, 86, 441
Citations: Ridsdill-Smith, T; Proceedings of a National Workshop on Redleeged Earth Mite 1991, 36
Citations: Ridsdill-Smith, T; Experimental and Applied Acarology 1997, 21, 195
Citations: Ridsdill-Smith, T; Experimental and Applied Acarology 1995, 19, 337
Citations: Ridsdill-Smith, T; Plant Protection Quarterly 1995, 10, 43
Citations: Ridsdill-Smith, T; Farming Ahead 2000, 103, 60
Citations: Ridsdill-Smith, T; Experimental and Applied Acarology 2000, 24, 397
Citations: Robinson, M; Australian Journal of Experimental Agriculture 2000, 40, 671
Citations: Rouch, M; Proceedings of the Second National Workshop on Redlegged Earth Mite 1994, 73
Citations: Skarratt, D; CLIMEX for Windows Version 1.0 1995
Citations: Swan, D; Journal of Agriculture South Australia 1934, 38, 353
Citations: Tucker, G; Proceedings of the Second National Workshop on Redlegged Earth Mite 1994, 75
Citations: Umina, P; Australian Journal of Experimental Agriculture 1999, 39, 621
Citations: Wallace, M; Australian Journal of Zoology 1970, 18, 295
Citations: Wallace, M; Australian Journal of Zoology 1971, 19, 65
Citations: Weeks, A; Experimental and Applied Acarology 1995, 19, 633
Citations: Weeks, A; Evolution 1998, 32, 1325
Citations: Weeks, A; Entomologia Experimentalis et Applicata 1999, 92, 179
Citations: Weeks, A; Journal of Economic Entomology 2000, 93, 1183 Earth mites are pests of crops and pastures in southeastern Australia. Recent studies show differences between earth mite species in their mode of reprodn., preferred hosts and pesticide tolerance. The distribution and pest status of each species was examd. The southeastern Australian distribution for each species was mapped, incorporating new data from eastern New South Wales, South Australia and Tasmania. A new population of an undescribed species previously identified from northwestern Victoria was found in northern New South Wales. CLIMEX was used to identify climatic factors limiting the distribution of P. major and P. falcatus, the most broadly distributed species. This anal. suggests tolerance to heat and desiccation limits the inland distribution of these two species. A three-year survey of agricultural outbreaks indicates that all Penthaleus species are major agricultural pests although their pest status on crop types appears to differ. All species contributed to chem. control failures. However P. falcatus, previously identified in lab. tests as having increased tolerance to pesticides, was the most common species assocd. with control failures. A

lab. expt. indicated that mites are sometimes pests on crops on which they cannot persist for a generation. Results are discussed with respect to management of these agricultural pests. [on SciFinder (R)] 0168-8162 Penthaleus/ Halotydeus/ distribution/ pesticide/ resistance/ Australia

1075. Rodrigues, Alexandre Mourao, Ferreira, Vera, Cardoso, Vitor Vale, Ferreira, Elisabete, and Benoliel, Maria Joao (2007). Determination of several pesticides in water by solid-phase extraction, liquid chromatography and electrospray tandem mass spectrometry. *Journal of Chromatography, A* 1150: 267-278.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:499217
Chemical Abstracts Number: CAN 147:25224
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 61
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (HPLC combined with; pesticides in water detd. by solid-phase extn. and HPLC-ESI-MS-MS); Tandem mass spectrometry (electrospray-ionization; pesticides in water detd. by solid-phase extn. and HPLC-ESI-MS-MS); HPLC (mass spectrometry combined with; pesticides in water detd. by solid-phase extn. and HPLC-ESI-MS-MS); Drinking waters; Groundwaters; Pesticides; Surface waters (pesticides in water detd. by solid-phase extn. and HPLC-ESI-MS-MS); Tandem mass spectrometry (quadrupole; pesticides in water detd. by solid-phase extn. and HPLC-ESI-MS-MS); Extraction (solid-phase; pesticides in water detd. by solid-phase extn. and HPLC-ESI-MS-MS); Electrospray ionization mass spectrometry; Quadrupole mass spectrometry (tandem; pesticides in water detd. by solid-phase extn. and HPLC-ESI-MS-MS)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (anal.; pesticides in water detd. by solid-phase extn. and HPLC-ESI-MS-MS); 60-51-5 (Dimethoate); 330-54-1 (Diuron); 330-55-2 (Linuron); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2032-65-7 (Methiocarb); 2921-88-2 (Chlorpyrifos); 10605-21-7 (Carbendazime); 34123-59-6 (Isoproturon); 53112-28-0 (Pyrimethanil); 57966-95-7 (Cymoxanil); 107534-96-3 (Tebuconazole); 138261-41-3 (Imidacloprid) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides in water detd. by solid-phase extn. and HPLC-ESI-MS-MS); 9058-17-7 (Oasis HLB); 134801-67-5 (C8); 144636-46-4 (C18); 165039-45-2 (LiChrolut EN); 676464-92-9 (HR-P) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (pesticides in water detd. by solid-phase extn. and HPLC-ESI-MS-MS)
Citations: 1) Albareda-Sirvent, M; Anal Chim Acta 2001, 442, 35
Citations: 2) Ballesteros, E; J Chromatogr A 2004, 1029, 267
Citations: 3) EU Council; Directive on the Quality of Water Intended for Human Consumption 1998, 98/83/CE
Citations: 4) Nogueira, J; J Chromatogr A 2003, 996, 133
Citations: 5) Li, H; J Chromatogr A 2003, 1012, 129
Citations: 6) Guardino, X; J Chromatogr A 1998, 823, 91
Citations: 7) Sabik, H; J Chromatogr A 1998, 818, 197
Citations: 8) Schellin, M; J Chromatogr A 2004, 1040, 251
Citations: 9) Goncalves, C; J Chromatogr A 2004, 1026, 239
Citations: 10) Penalver, A; J Chromatogr A 2003, 1007, 1
Citations: 11) Draper, W; J Agric Food Chem 2001, 49, 2746
Citations: 12) Fritz, J; J Chromatogr A 2000, 902, 137
Citations: 13) Liska, I; J Chromatogr A 2000, 885, 3
Citations: 14) Pichon, V; J Chromatogr A 2000, 885, 195
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Citations: 17) Freitas, L; J Chromatogr A 2004, 1028, 277
Citations: 18) Kampioti, A; Anal Bioanal Chem 2005, 382, 1815
Citations: 19) Leandro, C; J Chromatogr A 2006, 1103, 94
Citations: 20) Bogialli, S; J Chromatogr A 2006, 1102, 1
Citations: 21) Ibanez, M; J Chromatogr A 2005, 1081, 145
Citations: 22) Olsson, A; Anal Chem 2004, 76, 2453
Citations: 23) Schermerhorn, P; J AOAC Int 2005, 88, 1491
Citations: 24) Grujic, S; Food Addit Contam 2005, 22, 1132
Citations: 25) Volmer, D; Arch Environ Contam Toxicol 1998, 35, 1
Citations: 26) Reyzer, M; Anal Chim Acta 2001, 436, 11
Citations: 27) Blasco, C; Anal Chem 2003, 75, 3606
Citations: 28) Blasco, C; J Chromatogr A 2004, 1030, 77
Citations: 29) Nakamura, S; Anal Bioanal Chem 2005, 382, 99
Citations: 30) Standler, A; Microchim Acta 2004, 148, 151
Citations: 31) Azevedo, D; J Chromatogr A 2000, 879, 13
Citations: 32) Sancho, J; Analyst 2004, 129, 38
Citations: 33) Hernandez, F; Trends Anal Chem 2005, 24(7), 596
Citations: 34) The Commission of the European Communities; Off J Eur Commun 2002, 8, L221
Citations: 35) Borba da Cunha, A; Anal Bioanal Chem 2004, 378, 940
Citations: 36) Hernandez, F; Anal Chem 2004, 76, 4349
Citations: 37) Mezcua, M; J Chromatogr A 2006, 1109, 222
Citations: 38) Churchwell, M; J Chromatogr B 2005, 825, 134
Citations: 39) De Villiers, A; J Chromatogr A 2006, 1127, 60 The anal. of pesticides in water samples is a problem of primary concern for quality control labs. due to the toxicity level of these compds. and their public health risk. In order to evaluate the impact of pesticides in the Lisbon drinking water supply system, following the requirements of the European Union Directive 98/83/EC, we developed and validated an anal. method based on the combination of solid-phase extn. with liq. chromatog. and tandem mass spectrometry. In this work, several pesticides were studied: imidacloprid, dimethoate, cymoxanil, carbendazime, phosmet, carbofuran, isoproturon, diuron, methidathion, linuron, pyrimethanil, methiocarb, tebuconazole and chlorpyrifos. Several parameters of the electrospray source were optimized in order to get the best formation conditions of the precursor ion for each pesticide, namely capillary and extractor voltage, cone voltage, cone gas flow rate and desolvation gas flow rate. After optimization of the collision cell energy of the triple quadrupole, two different precursor ion - product ion transitions were selected for each pesticide, one for quantification and one for qualification, and these ions were monitored under time-scheduled multiple reaction monitoring (MRM) conditions. The selection of specific fragment ions for each pesticide guarantees a high degree of selectivity as well as addnl. sensitivity to quantify trace levels of these pesticides in water samples. This method showed excellent linearity ranges for all pesticides, with correlation coeffs. greater than 0.9989. Detn. limits (between 0.0041 and 0.0480 mg/L), precision (RSD <9.18%), accuracy and recovery studies in several water samples using solid-phase extn. were also performed. [on SciFinder (R)] 0021-9673 pesticide/ water/ analysis/ extn/ HPLC/ ESI/ MSMS

1076. Rodriguez, E., Wood, Z. A., Karplus, P. A., and Lei, X. G. (Site-Directed Mutagenesis Improves Catalytic Efficiency and Thermostability of Escherichia Coli Ph 2.5 Acid Phosphatase/Phytase Expressed in Pichia Pastoris. *Arch biochem biophys. 2000, oct 1; 382(1):105-12. [Archives of biochemistry and biophysics]: Arch Biochem Biophys*.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: Escherichia coli pH 2.5 acid phosphatase gene (appA) and three mutants were expressed in Pichia pastoris to assess the effect of strategic mutations or deletion on the enzyme (EcAP) biochemical properties. Mutants A131N/ V134N/D207N/S211N, C200N/D207N/S211N, and A131N/ V134N/C200N/D207N/S211N had four, two, and four additional potential N-glycosylation sites, respectively. Extracellular phytase and acid phosphatase activities were produced by these mutants and the intact enzyme r-AppA. The N-glycosylation level was higher

in mutants A131N/V134N/D207N/S211N (48%) and A131N/V134N/ C200N/D207N/S211N (89%) than that in r-AppA (14%). Despite no enhancement of glycosylation, mutant C200N/ D207N/S211N was different from r-AppA in the following properties. First, it was more active at pH 3.5-5.5. Second, it retained more (P < 0.01) phytase activity than that of r-AppA. Third, its specific activity of phytase was 54% higher. Lastly, its apparent catalytic efficiency kcat/Km for either p-nitrophenyl phosphate (5.8 x 10(5) vs 2.0 x 10(5) min(-1) M(-1)) or sodium phytate (6.9 x 10(6) vs 1.1 x 10(6) min(-1) M(-1)) was improved by factors of 1.9- and 5.3-fold, respectively. Based on the recently published E. coli phytase crystal structure, substitution of C200N in mutant C200N/D207N/S211N seems to eliminate the disulfide bond between the G helix and the GH loop in the alpha-domain of the protein. This change may modulate the domain flexibility and thereby the catalytic efficiency and thermostability of the enzyme.
MESH HEADINGS: 6-Phytase/*metabolism
MESH HEADINGS: Acid Phosphatase/*metabolism
MESH HEADINGS: Amino Acid Sequence
MESH HEADINGS: Base Sequence
MESH HEADINGS: Catalysis
MESH HEADINGS: Cloning, Molecular
MESH HEADINGS: Disulfides
MESH HEADINGS: Electrophoresis, Polyacrylamide Gel
MESH HEADINGS: Enzyme Stability
MESH HEADINGS: Escherichia coli/*enzymology
MESH HEADINGS: Glycosylation
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Kinetics
MESH HEADINGS: Molecular Sequence Data
MESH HEADINGS: Mutagenesis, Site-Directed
MESH HEADINGS: Nitrophenols/metabolism
MESH HEADINGS: Organophosphorus Compounds/metabolism
MESH HEADINGS: Phytic Acid/metabolism
MESH HEADINGS: Pichia/*metabolism
MESH HEADINGS: Polymerase Chain Reaction
MESH HEADINGS: Protein Structure, Tertiary
MESH HEADINGS: Temperature
LANGUAGE: eng

1077. Romero, E. , Sanchez-Rasero, F., Pena, A., De, L. A. Colina C, and Dios, G. (1996). Bentazone Leaching in Spanish Soils. *Pesticide science* 47: 7-15.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Adsorption, incubation and soil-column experiments with bentazone (3-isopropyl-1H-2,1,3-benzothiadiazin-4(3H)-one 2,2-dioxide) were carried out in ten different soils from the marches surrounding the Donana National Park (Huelva, SW Spain). Adsorption isotherms for the different soils showed a good fit with the Freundlich equation. Bentazone was poorly adsorbed in all the soils studied, with no significant relationship between the Kf values and soil characteristics. A significant correlation was obtained between the soil organic matter content and the distribution constant values (Kd) calculated at an equilibrium concentration of 200 mug cm-3. The low adsorption and non-degradation of bentazone on these soils suggest that the herbicide readily percolates through soils to reach the surface and ground waters. The mobility of bentazone through three soil columns was also studied. The mass balances carried out showed that bentazone was totally eluted from the soil columns.
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: CYBERNETICS

MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
MESH HEADINGS: PLANTS
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-Biocybernetics (1972-)
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Plantae-Unspecified
LANGUAGE: eng

1078. Romero-Saltos, H., Sternberg LDSL, Moreira, M. Z., and Nepstad, D. C. (2005). Rainfall Exclusion in an Eastern Amazonian Forest Alters Soil Water Movement and Depth of Water Uptake. *American Journal of Botany, 92 (3) pp. 443-455, 2005.*
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

ISSN: 0002-9122
Descriptors: Coussarea racemosa
Descriptors: Deuterium
Descriptors: Drought
Descriptors: Eastern Amazonia
Descriptors: El Nin(tilde)o
Descriptors: Eschweilera pedicellata
Descriptors: Global climate change
Descriptors: Sclerolobium chrysophyllum
Abstract: Deuterium-labeled water was used to study the effect of the Tapajo(acute)s Throughfall Exclusion Experiment (TTEE) on soil moisture movement and on depth of water uptake by trees of Coussarea racemosa, Sclerolobium chrysophyllum, and Eschweilera pedicellata. The TTEE simulates an extended dry season in an eastern Amazonian rainforest, a plausible scenario if the El Nin(tilde)o phenomenon changes with climate change. The TTEE excludes 60% of the wet season throughfall from a 1-ha plot (treatment), while the control 1-ha plot receives precipitation year-round. Mean percolation rate of the label peak in the control plot was greater than in the treatment plot during the wet season (0.75 vs. 0.07 m/mo). The rate was similar for both plots during the dry season (ca. 0.15 m/mo), indicative that both plots have similar topsoil structure. Interestingly, the label peak in the control plot during the dry season migrated upward an average distance of 64 cm. We show that water probably moved upward through soil pores - i.e., it did not involve roots (hydraulic lift) - most likely because of a favorable gradient of total (matric + gravitational) potential coupled with sufficient unsaturated hydraulic conductivity. Water probably also moved upward in the treatment plot, but was not detectable; the label in this plot did not percolate below 1 m or beyond the depth of plant water uptake. During the dry season, trees in the rainfall exclusion plot, regardless of species, consistently absorbed water significantly deeper, but never below 1.5-2 m, than trees in the control plot, and therefore may represent expected root function of this understory/subcanopy tree community during extended dry periods.
56 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.4.3 WATER AND NUTRIENTS: Water Relations and Gas Exchange
Classification: 92.5.1.1 STRESS PHYSIOLOGY: Stress: Drought, flooding, anoxia
Classification: 92.13.1.6 ENVIRONMENTAL BIOLOGY: Ecology: Interactions with environment
Subfile: Plant Science

1079. Roos, A. H., Van Munsteren, A. J., Nab, F. M., and Tuinstra, L. G. M. Th (1987). Universal extraction/cleanup procedure for screening of pesticides by extraction with ethyl acetate and size exclusion chromatography. *Analytica Chimica Acta* 196: 95-102.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1987:616254
Chemical Abstracts Number: CAN 107:216254
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Apple; Barley; Beet; Carrot; Cauliflower; Celery; Cereal; Endive; Fruit; Leek; Lettuce; Onion; Portulaca oleracea; Potato; Spinach; Strawberry; Turnip; Vegetable; Wheat (pesticides sepn. from, by solvent extn. and size-exclusion chromatog.); Fats Role: ANST (Analytical study) (pesticides sepn. from, by solvent extn. and size-exclusion chromatog.); Food analysis (pesticides sepn. in, by solvent extn. and size-exclusion chromatog.); Fungicides and Fungistats; Pesticides (sepn. of, from foods, by solvent extn. and size-exclusion chromatog.); Oils Role: ANST (Analytical study) (fish, pesticides sepn. from, by solvent extn. and size-exclusion chromatog.); Meat (liver, beef, pesticides sepn. from, by solvent extn. and size-exclusion chromatog.); Meat (liver, pork, pesticides sepn. from, by solvent extn. and size-exclusion chromatog.); Cabbage (red, pesticides sepn. from, by solvent extn. and size-exclusion chromatog.); Cabbage (white, pesticides sepn. from, by solvent extn. and size-exclusion chromatog.)
CAS Registry Numbers: 50-29-3 (p,p'-DDT); 52-68-6 (Trichlorphon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 62-73-7; 72-20-8 (Endrin); 72-54-8 (p,p'-TDE); 72-55-9 (p,p'-DDE); 78-34-2 (Dioxathion); 86-50-0; 92-52-4D (Biphenyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 333-41-5 (Diazinon); 470-90-6; 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6 (o,p'-DDT); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1031-07-8 (Endosulfansulfate); 1085-98-9 (Dichlofluanid); 1897-45-6; 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2540-82-1 (Formothion); 2642-71-9 (Azinphos-ethyl); 2921-88-2; 4824-78-6 (Bromophos-ethyl); 5103-71-9 (a-Chlordane); 5566-34-7 (g-Chlordane); 7786-34-7 (Mevinphos); 10311-84-9 (Dialifos); 13171-21-6 (Phosphamidon); 13457-18-6 (Pyrazophos); 18181-70-9; 22248-79-9 (Tetrachlorvinphos); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos methyl); 33213-65-9 (b-Endosulfan); 36734-19-7 (Iprodione); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol) Role: BIOL (Biological study) (sepn. of, from foods, by solvent extn. and size-exclusion chromatog.) Size exclusion chromatog. (SEC) is used as a clean-up procedure after extn. of pesticides with the compatible solvent Et acetate. Recoveries better than 90% are obtained for organochlorine and organophosphorus pesticides, fungicides and chlorobiphenyls from fats, fish oils, vegetables, fruits, cereals and liver. A comparison with other procedures is made. The use of a 10-mm i.d. SEC column provides the same limits of detn. as those attainable with com. systems but requires only 15% of the amt. of solvents normally used. [on SciFinder (R)] 0003-2670 pesticide/ detn/ fruit/ vegetable/ liver/ SEC;/ PCB/ detn/ fat/ cereal/ SEC;/ size/ exclusion/ chromatog/ PCB/ pesticide

1080. Roseboom, H. and Groenemeijer, G. S (1981). Residues of organophosphorous pesticides as determined by capillary gas chromatography. *Mededelingen van de Faculteit Landbouwwetenschappen, Universiteit Gent* 46: 325-30.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS

Accession Number: AN 1981:618938
Chemical Abstracts Number: CAN 95:218938
Section Code: 17-1
Section Title: Foods
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Vegetable (pesticides contg. phosphorus detn. in, gas chromatog.); Pesticides (phosphorus-contg., detn. of, in vegetables, gas chromatog.)
CAS Registry Numbers: 56-38-2; 60-51-5; 62-73-7; 107-49-3; 122-14-5; 301-12-2; 327-98-0; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 786-19-6; 2104-96-3; 3689-24-5; 4824-78-6; 7786-34-7; 13171-21-6; 17040-19-6 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in vegetables, gas chromatog.) Market samples of various vegetables were analyzed for organophosphorus pesticides by capillary column gas chromatog. and a flame-photometric or thermionic detector. Some crops, like celery, mushroom, and carrot do not show interferences with either of these detectors; for cabbage samples the flame-photometric detector is to be preferred and for onion and leek the thermionic detector shows the least interferences. For the anal. of relatively volatile organophosphorus compds. in cabbage, onion, and leek a clean-up of the ext. is advisable, and such a method, using reversed phase liq. chromatog., was developed. Out of 135 samples, 21 contained detectable residues of organophosphorus compds.; in 2 samples the tolerance limit was exceeded. Diazinon [333-41-5] and trichloronate [327-98-0] were the most frequently detected compds., esp. in carrots. In 10 out of 20 carrot samples diazinon could be detected and in 5 out of 20 carrot samples trichloronate was found. [on SciFinder (R)] 0368-9697 insecticide/ detn/ vegetable;/ gas/ chromatog/ insecticide

1081. Roslavtseva, S. A. and Eremina, O. Yu (1989). Study of the Effect of Pesticides on Entomophages and Acariphages. *Agrokhimiya* 0: 123-136.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW CRYPTOLAEMUS-MONTROUZIERI APHIDIUS-COLEMANI BACILLUS-THURINGIENSIS PARASITISM PREDATION AGRONOMIC HORTICULTURAL CROPS BIOLOGICAL CONTROL
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BACTERIA/PHYSIOLOGY
MESH HEADINGS: BACTERIA/METABOLISM
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL, BIOLOGICAL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL

MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: BACILLACEAE
MESH HEADINGS: PLANTS
MESH HEADINGS: COLEOPTERA
MESH HEADINGS: HYMENOPTERA
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Physiology and Biochemistry of Bacteria
KEYWORDS: Agronomy-General
KEYWORDS: Horticulture-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Fruits and Nuts
KEYWORDS: Economic Entomology-Biological Control
KEYWORDS: Economic Entomology-Integrated Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Invertebrata
KEYWORDS: Bacillaceae (1979-)
KEYWORDS: Angiospermae
KEYWORDS: Coleoptera
KEYWORDS: Hymenoptera
LANGUAGE: rus

1082. Roslavtseva, S. A., Poliakova, V. K., and Ivanova, G. B. (1970). [Changes in the Resistance of Flies to Methylethylthiophos and Phthalophos in Laboratory Experiments]. *Med Parazitol (Mosk)* 39: 345-349.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Houseflies/*drug effects
MESH HEADINGS: *Insecticide Resistance
MESH HEADINGS: Insecticides/*pharmacology
MESH HEADINGS: Phosphates/*pharmacology
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Izmenenie reziztentnosti mukh k metilétiltiofosu i ftalofosu v laboratornykh opytakh.

1083. Ross, C. T. F. and Etheridge, J. (2000). The buckling and vibration of tube-stiffened axisymmetric shells under external hydrostatic pressure. *Ocean Engineering* 27: 1373-1390.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The paper reports on a theoretical and an experimental investigation into the buckling and vibration of prolate hemi-ellipsoidal tube-stiffened domes under external water pressure. The theoretical analyses were via the finite element method, where both the fluid and the structure were modelled with finite elements. The dome was modelled with a varying meridional curvature element and with eight displacement degrees of freedom and the water was modelled by solid annular elements where each element had eight pressure degrees of freedom in its cross-section. Comparison was good between experiment and theory. Shells/ External pressure/ Buckling/ Vibration/ Tube-stiffened http://www.sciencedirect.com/science/article/B6V4F-40GJDMT-5/2/c496101c63e4216194bfa94931e53f41

1084. Ross, Carl T. F., Koster, Philipp, Little, Andrew P. F., and Tewkesbury, Giles (2007). Vibration of a thin-walled prolate dome under external water pressure. *Ocean Engineering* 34: 560-575.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The paper reports on a theoretical and an experimental investigation carried out on a thin-walled hemi-ellipsoidal prolate dome in air and also under external water pressure. The investigation found that there was good correlation between experiment and theory. The theoretical investigation was carried out using the finite element analysis to model both the structure and the fluid. The theoretical investigation used two different programs, one of which was the giant computer program ANSYS and the other was an in-house program developed by Ross. For the shell structure, the ANSYS program used 2 different doubly curved thin-walled shell elements, while the in-house program used a simpler axisymmetric thin-walled shell element. This axisymmetric element allowed a sinusoidal variation of the displacements in the circumferential direction, thus, decreasing preparation and computational time. Agreement between the 3 different finite elements was found to be good. This was found particularly encouraging for the in-house software, as it only took a few hours to set up the computer model, and a few seconds to analyse the vessel, whereas the ANSYS software took several weeks to set up the computer model, and several minutes to analyse the shell dome. The ANSYS software, however, did have the advantage in producing excellent graphical displays in both the pre-processing and post-processing modes. Vibration/ Thin-walled shells/ Domes/ Finite elements/ Water pressure/ ANSYS http://www.sciencedirect.com/science/article/B6V4F-4K7FJSW-3/2/d43b898692c33a3ba98b99176da04ece

1085. Ross, Carl T. F., Little, Andrew P. F., and Bartlett, Colin (2004). The vibration of a large ring-stiffened prolate dome under external water pressure. *Ocean Engineering* 31: 1-19.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The paper presents a theoretical and an experimental investigation into the free vibration of a large ring-stiffened prolate dome in air and under external water pressure. The theoretical investigation was via the finite element method where a solid fluid mesh with an isoparametric cross-section was used to model the water surrounding the dome, and a truncated conical shell and ring stiffener were used to model the structure. Good agreement was found between theory and experiment. Both the theory and the experiment found that as the external water pressure was increased the resonant frequencies decreased. Vibration/ Water pressure/ Finite elements/ Ring-stiffeners/ Dome/ Submarine http://www.sciencedirect.com/science/article/B6V4F-49YCWYS-1/2/582732800a3d7f59aec63e3a100ed2e5

1086. Ross, Carl T. F., Little, Andrew P. F., Chasapides, Leonidas, Banks, Jeff, and Attanasio, Daniele (2004). Buckling of ring stiffened domes under external hydrostatic pressure. *Ocean Engineering* 31: 239-252.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The paper reports on the buckling of three ring-stiffened prolate domes under external hydrostatic pressure. The study was partly theoretical and partly experimental, where in the case of the latter, the finite element was used. Comparison between experiment and theory was good. The effect of ring stiffening the domes was to increase their buckling resistances by factors varying from 4.43 to 5.72. Buckling/ Domes/ External pressure/ Finite elements/ Ring stiffeners http://www.sciencedirect.com/science/article/B6V4F-49W6MX7-5/2/1d09f4a34083790773776bc1a8931a11

1087. Ross, Ralph T. and Biros, Francis J (1970). Correlations between phosphorus-31 NMR chemical shifts and structures of some organophosphorus pesticides. *Analytica Chimica Acta* 52: 139-41.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1971:31000
Chemical Abstracts Number: CAN 74:31000
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Molecular structure-property relationships (nuclear magnetic resonance, of phosphorus-contg. pesticides); Nuclear magnetic resonance (of phosphorus-contg. pesticides); Insecticides (phosphorus-contg., nuclear magnetic resonance in relation to structure of)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 56-72-4; 60-51-5; 62-73-7; 86-50-0; 94-84-8; 97-17-6; 115-90-2; 121-75-5; 122-10-1; 141-66-2; 150-50-5; 297-97-2; 298-00-0; 298-04-4; 299-84-3; 299-85-4; 299-86-5; 311-45-5; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 741-58-2; 953-17-3; 962-58-3; 2104-64-5; 2921-88-2; 3383-96-8; 3983-45-7; 4104-14-7; 6923-22-4; 7700-17-6; 7786-34-7; 13171-21-6 Role: BIOL (Biological study) (nuclear magnetic resonance chem. shifts of) The 31P NMR spectra were measured for a series of com. organophosphorus pesticide compds. The chem. shifts of 37 of them are correlated with the structures of 9 classes of organophosphorus pesticides, namely, phosphates, phosphorothioates, phosphorodithioates, phosphoramidothioates, phosphoramidates, phosphonothioates, phosphonates, phosphites, and phosphorotrithioates. [on SciFinder (R)] 0003-2670 NMR/ pesticides/ phosphorus;/ pesticides/ phosphorus/ NMR;/ phosphorus/ pesticides/ NMR

1088. Rossi, S., Dalpero, A. P., Ghini, S., Colombo, R., Sabatini, A. G., and Girotti, S (2001). Multiresidual method for the gas chromatographic analysis of pesticides in honeybees cleaned by gel permeation chromatography. *Journal of Chromatography, A* 905: 223-232.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, IN VITRO.

Database: CAPLUS
Accession Number: AN 2000:891100
Chemical Abstracts Number: CAN 134:189065
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (carbamate; multiresidual method for gas chromatog. anal. of pesticides in honeybees cleaned by gel permeation chromatog.); Environmental pollution (monitoring; multiresidual method for gas chromatog. anal. of pesticides in honeybees cleaned by gel permeation chromatog.); Gas chromatography; Gel permeation chromatography; Honeybee (multiresidual method for gas chromatog. anal. of pesticides in honeybees cleaned by gel permeation chromatog.); Pesticides (organophosphorus; multiresidual method for gas chromatog. anal. of pesticides in honeybees cleaned by gel permeation chromatog.)
CAS Registry Numbers: 56-38-2 (Parathion ethyl); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 298-00-0 (Parathion methyl); 311-45-5 (Paraoxon ethyl); 333-41-5 (Diazinon); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 2032-65-7 (Methiocarb); 2104-96-3 (Bromophos methyl); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2597-03-7 (Phenthoate); 5598-13-0 (Chlorpyrifos methyl); 10265-92-6 (Methamidophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 23103-98-2 (Pirimicarb); 23505-41-1 (Pirimiphos ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos methyl); 29973-13-5 (Ethiofencarb); 72490-01-8 (Fenoxycarb) Role: ANT (Analyte), POL (Pollutant), ANST

(Analytical study), OCCU (Occurrence)   (multiresidual method for gas chromatog. anal. of pesticides in honeybees cleaned by gel permeation chromatog.)
Citations: 1) Celli, G; Le Scienze 1991, 274, 42
Citations: 2) Bromenschenk, J; Le Scienze 1985, 227, 632
Citations: 3) Tonelli, D; J Radioanal Nucl Chem 1990, 141, 427
Citations: 4) Sasaki, K; J Off Anal Chem 1987, 70, 460
Citations: 5) Dagna, L; Boll Chim Igien 1992, 43, 419
Citations: 6) Gennari, M; J Agric Food Chem 1985, 33, 1232
Citations: 7) Cabras, P; Rev Environ Contam Toxicol 1987, 99, 84
Citations: 8) Kadenczki, L; J Am Off Anal Chem Int 1992, 75, 53
Citations: 9) Sacchero, G; Ind Alim 1997, 36, 482
Citations: 10) Castellano, V; Tecn Crom 1993, 1, 10
Citations: 11) Colombo, R; Ind Alim 1997, 36, 1151
Citations: 12) Anonymous; Beekeeping in United States 1980, 138
Citations: 13) Sannino, A; J Am Off Anal Chem Int 1995, 78, 1502
Citations: 14) Baldi, M; Boll Chim Igien 1990, 41, 295
Citations: 15) Jongenotter, G; J High Resolut Chromatogr 1999, 22, 17
Citations: 16) Sannino, A; J Am Off Anal Chem Int 1999, 82, 1229
Citations: 17) Eriksson, U; Mar Pollut Bull 1997, 35, 176
Citations: 18) Pauwels, A; Int J Environ Anal Chem 1999, 73, 171
Citations: 19) Furusawa, N; J Am Off Anal Chem Int 1998, 81, 1033
Citations: 20) Uygun, U; J Liq Chromatogr 1997, 20, 771
Citations: 21) Nerin, C; Analyst 1999, 124, 67
Citations: 22) Scaroni, I; Ind Alim 1997, 36, 1131
Citations: 23) Dong, M; LC-GC 1992, 6, 442
Citations: 24) Dagna, L; Boll Chim Igien 1993, 44, 383 The anal. of several organophosphorus and carbamate pesticide residues in the bodies of honeybees using gas chromatog. (GC) and gel permeation chromatog. (GPC) clean-up is described. Freeze-dried or lyophilized insect samples were blended with diatomaceous earth (Extrelut) then underwent elution with methylene chloride. This extn. method has shown good recovery on various spike std. levels. Samples are cleaned up by GPC with a Bio Beads SX 3 column and a cyclohexane-ethylacetate (1:1) eluant. Organophosphorus and carbamate compds. are quantified using capillary gas chromatog. Good linearity ranges were obsd. for all compds. The extn. process was rapid and results were good, despite the complexity of the matrix on which it was applied. It allowed a redn. both in cost and the consumption of solvents, thereby safeguarding the health of the analyst and the environment. Environmental monitoring using bees was confirmed to be a valid procedure. [on SciFinder (R)] 0021-9673 pesticide/ honeybee/ gas/ chromatog/ pollution/ monitor

1089. Rothlein, Joan, Rohlman, Diane, Lasarev, Michael, Phillips, Jackie, Muniz, Juan, and McCauley, Linda (2006). Organophosphate pesticide exposure and neurobehavioral performance in agricultural and nonagricultural hispanic workers. *Environmental Health Perspectives* 114: 691-696.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:501952
Chemical Abstracts Number: CAN 145:129426
Section Code: 59-5
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides   (Organophosphate; evaluating effect of organophosphate pesticide exposure in hispanic workers in terms of neurobehavioral performance in Oregon); Biomarkers; Human; Industrial hygiene; Occupational health hazard; Safety; Urine   (evaluating effect of organophosphate pesticide exposure in hispanic workers in terms of neurobehavioral performance

in Oregon); Dust (household and vehicular; evaluating effect of organophosphate pesticide exposure in hispanic workers in terms of neurobehavioral performance in Oregon); Behavior (neurobehavior; evaluating effect of organophosphate pesticide exposure in hispanic workers in terms of neurobehavioral performance in Oregon)
CAS Registry Numbers: 121-75-5 (Malathion); 298-00-0 (Methyl parathion); 333-41-5 (Diazinon); 598-02-7 (Diethylphosphate); 732-11-6 (Phosmet); 813-78-5 (Dimethylphosphate); 1765-40-8 (2,3,4,5,6-Pentafluorobenzylbromide); 2229-07-4D (Methyl); 2465-65-8; 2921-88-2 (Chlorpyrifos); 32534-66-0 (Dimethyldithiophosphate); 59401-04-6 (Dimethylthiophosphate) Role: ADV (Adverse effect, including toxicity), OCU (Occurrence, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (evaluating effect of organophosphate pesticide exposure in hispanic workers in terms of neurobehavioral performance in Oregon); 86-50-0 (Azinphos-Methyl) Role: BSU (Biological study, unclassified), BIOL (Biological study) (evaluating effect of organophosphate pesticide exposure in hispanic workers in terms of neurobehavioral performance in Oregon)
Citations: Alavanja, M; Annu Rev Public Health 2004, 25, 155
Citations: Anger, W; Neurotoxicol Teratol 1996, 18, 371
Citations: Anger, W; Environ Res 1997, 73, 18
Citations: Arcury, T; Lancet 2003, 362, 2021
Citations: Azaroff, L; Environ Res 1999, 80, 138
Citations: Bazylewicz-Walczak, B; Neurotoxicology 1999, 20, 819
Citations: Bradman, M; J Expo Anal Environ Epidemiol 1997, 7, 217
Citations: Coronado, G; Environ Health Perspect 2004, 112, 142
Citations: Dam, K; Brain Res Dev Brain Res 2000, 121(2), 179
Citations: Das, R; Int J Occup Environ Health 2001, 7, 302
Citations: Farahat, T; Occup Environ Med 2003, 60, 279
Citations: Fiedler, N; Am J Ind Med 1997, 32, 487
Citations: Furlong, C; Neurotoxicology 2000, 21(1-2), 91
Citations: Heyer, N; Neurotoxicol Teratol 1996, 18(4), 401
Citations: Kamel, F; Environ Health Perspect 2003, 111, 1765
Citations: Levin, E; Neurotoxicol Teratol 2002, 24(6), 733
Citations: Levin, E; Brain Res Dev Brain Res 2001, 130(1), 83
Citations: Lewis, R; Arch Environ Contam Toxicol 1994, 26, 37
Citations: Loewenherz, C; Environ Health Perspect 1997, 105, 1344
Citations: Lotti, M; Experimental and Clinical Neurotoxicology. 2nd ed 2000, 911
Citations: Lu, C; Environ Res 2000, 84, 290
Citations: Lu, C; Environ Health Perspect 2001, 109, 299
Citations: McCauley, L; Environ Health Perspect 2001, 109, 449
Citations: McCauley, L; AAOHN J 2003, 51, 113
Citations: Moate, T; J Anal Toxicol 1999, 23, 230
Citations: Moate, T; JAOAC Int 2002, 85, 36
Citations: Napolitano, M; J Immigr Health 2002, 4(1), 35
Citations: Netter, J; Applied Linear Regression Models. 2nd ed 1989, 281
Citations: O'Rourke, M; J Expo Anal Environ Epidemiol 2000, 10(6), 672
Citations: Quandt, S; Environ Health Perspect 2004, 112, 382
Citations: R Development Core Team; R: A Language and Environment for Statistical Computing, http://www.r-project.org 2005
Citations: Rao, C; Linear Statistical Interference and Its Applications. 2nd ed 1973, 268
Citations: Reidy, T; Arch Clin Neuropsychol 1992, 7, 85
Citations: Rohlman, D; Neurotoxicology 2003, 24(4-5), 523
Citations: Rosenstock, L; Lancet 1991, 338, 223
Citations: Savage, E; Arch Environ Health 1988, 43, 38
Citations: Simcox, N; Environ Health Perspect 1995, 103, 1126
Citations: Steenland, K; Am J Public Health 1994, 84, 731
Citations: Stephens, R; Lancet 1995, 315, 1135
Citations: Thompson, B; J Occup Environ Med 2003, 45, 42
Citations: Wesseling, C; Int J Occup Environ Health 2002, 8, 27

Citations: Wessels, D; Environ Health Perspect 2003, 111, 1939 Our understanding of the health risks of farmworkers exposed to pesticides in their work and home environments is rapidly increasing, although studies designed to examine the possible neurobehavioral effects of low-level chronic pesticide exposure are limited. We measured dialkyl phosphate urinary metabolite levels, collected environmental dust samples from a subset of homes, obtained information on work practices, and conducted neurobehavioral tests on a sample of farmworkers in Oregon. Significant correlations between urinary Me metabolite levels and total Me organophosphate (azinphos-Me, phosmet, malathion) house dust levels were obsd. We found the neurobehavioral performance of Hispanic immigrant farmworkers to be lower than that obsd. in a nonagricultural Hispanic immigrant population, and within the sample of agricultural workers there was a pos. correlation between urinary organophosphate metabolite levels and poorer performance on some neurobehavioral tests. These findings add to an increasing body of evidence of the assocn. between low levels of pesticide exposure and deficits in neurobehavioral performance. [on SciFinder (R)] 0091-6765 organophosphate/ pesticide/ neurobehavioral/ occupational/ health/ risk/ Oregon;/ pesticide/ metabolite/ urine/ exposed/ farm/ worker/ Oregon;/ occupational/ health/ hazard/ organophosphate/ pesticide/ exposure/ farm/ worker/ Oregon

1090. Roush, R. T. and Tabashnik, B. E. (1990). Pesticide Resistance in Arthropods. *Roush, r. T. And b. E. Tabashnik (ed.). Pesticide resistance in arthropods. Ix+303p. Routledge, chapman and hall: new york, new york, usa* London, england, uk. Illus. Maps. Isbn 0-412-01971-x.; 0: Ix+303p.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK PLANT HUMAN DISEASE VECTOR CONTROL POPULATION GENETICS MOLECULAR MECHANISM NORTH AMERICA
MESH HEADINGS: EVOLUTION
MESH HEADINGS: ANIMALS/GENETICS
MESH HEADINGS: GENETICS, POPULATION
MESH HEADINGS: HUMAN
MESH HEADINGS: SOCIAL BEHAVIOR
MESH HEADINGS: ECOLOGY
MESH HEADINGS: ECOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: ZOONOSES
MESH HEADINGS: DISINFECTION
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: DISEASE VECTORS
MESH HEADINGS: PESTICIDES
MESH HEADINGS: DISEASE VECTORS
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES

MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: DISEASE VECTORS
MESH HEADINGS: ENTOMOLOGY
MESH HEADINGS: SANITATION
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ARTHROPODS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: ARTHROPODS
MESH HEADINGS: HOMINIDAE
KEYWORDS: Evolution
KEYWORDS: Genetics and Cytogenetics-Animal
KEYWORDS: Genetics and Cytogenetics-Population Genetics (1972-)
KEYWORDS: Social Biology
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Toxicology-General
KEYWORDS: Toxicology-Foods
KEYWORDS: Public Health-Epizootiology
KEYWORDS: Public Health-Disinfection and Vector Control
KEYWORDS: Public Health: Disease Vectors-Animate
KEYWORDS: Agronomy-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-General
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Sanitary Entomology
KEYWORDS: Invertebrata
KEYWORDS: Plantae-Unspecified
KEYWORDS: Arthropoda-Unspecified
KEYWORDS: Hominidae
LANGUAGE: eng

1091. Roux, K. H., Dhanarajan, P., Gottschalk, V., Mccormack, W. T., and Renshaw, R. W. (1991). Latent A1 Vh Germline Genes in an A2a2 Rabbit: Evidence for Gene Conversion at Both the Germline and Somatic Levels. *J immunol* 146: 2027-2036.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. We have previously reported the sequences of putative latent a1 cDNA derived from an a2a2 rabbit. Significant similarity to nominal a1 cDNA sequences was noted, but none of the latent sequences were completely a1-like. We have now probed a genomic library, produced from the same a2a2 rabbit, for evidence of germline latent a1 VH genes. Four hundred ninety-four VH+ clones were screened with oligonucleotides specific for a1 diagnostic regions of framework region 1 (FR1) and FR3. Twenty-two percent of the VH+

clones hybridized with an a1FR3 oligonucleotide probe. Two a1 FR1 probes yielded weak signals with 6% to 13% of the VH+ clones. Twenty VH genes from clones positive for one or more of the a1-specific oligonucleotide probes were sequences, revealing 14 unique germline VH genes. All but one of these genes were 85% to 92% identical to the VH1-a1 normal gene prototype, with sequence identity extending into the leader intron. Most genes displayed extended regions of simila

MESH HEADINGS: ANIMALS
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: ANIMALS/GENETICS
MESH HEADINGS: NUCLEIC ACIDS/ANALYSIS
MESH HEADINGS: PURINES/ANALYSIS
MESH HEADINGS: PYRIMIDINES/ANALYSIS
MESH HEADINGS: AMINO ACIDS/ANALYSIS
MESH HEADINGS: PEPTIDES/ANALYSIS
MESH HEADINGS: PROTEINS/ANALYSIS
MESH HEADINGS: CARBOHYDRATES/ANALYSIS
MESH HEADINGS: NUCLEIC ACIDS
MESH HEADINGS: PURINES
MESH HEADINGS: PYRIMIDINES
MESH HEADINGS: AMINO ACIDS
MESH HEADINGS: PEPTIDES
MESH HEADINGS: PROTEINS
MESH HEADINGS: CARBOHYDRATES
MESH HEADINGS: DNA REPLICATION
MESH HEADINGS: TRANSCRIPTION, GENETIC
MESH HEADINGS: TRANSLATION, GENETIC
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: CARBOHYDRATES/METABOLISM
MESH HEADINGS: AMINO ACIDS/METABOLISM
MESH HEADINGS: PEPTIDES/METABOLISM
MESH HEADINGS: PROTEINS/METABOLISM
MESH HEADINGS: NUCLEIC ACIDS/METABOLISM
MESH HEADINGS: PURINES/METABOLISM
MESH HEADINGS: PYRIMIDINES/METABOLISM
MESH HEADINGS: BLOOD CHEMICAL ANALYSIS
MESH HEADINGS: BODY FLUIDS/CHEMISTRY
MESH HEADINGS: LYMPH/CHEMISTRY
MESH HEADINGS: EMBRYOLOGY
MESH HEADINGS: FETAL DEVELOPMENT
MESH HEADINGS: LARVA
MESH HEADINGS: IN VITRO
MESH HEADINGS: TISSUE CULTURE
MESH HEADINGS: IMMUNITY
MESH HEADINGS: LAGOMORPHA
KEYWORDS: Cytology and Cytochemistry-Animal
KEYWORDS: Genetics and Cytogenetics-Animal
KEYWORDS: Biochemical Methods-Nucleic Acids
KEYWORDS: Biochemical Methods-Proteins
KEYWORDS: Biochemical Methods-Carbohydrates
KEYWORDS: Biochemical Studies-Nucleic Acids
KEYWORDS: Biochemical Studies-Proteins
KEYWORDS: Biochemical Studies-Carbohydrates
KEYWORDS: Replication

KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Metabolism-Carbohydrates
KEYWORDS: Metabolism-Proteins
KEYWORDS: Metabolism-Nucleic Acids
KEYWORDS: Blood
KEYWORDS: Developmental Biology-Embryology-General and Descriptive
KEYWORDS: In Vitro Studies
KEYWORDS: Immunology and Immunochemistry-General
KEYWORDS: Immunology and Immunochemistry-Immunopathology
KEYWORDS: Leporidae
LANGUAGE: eng

1092. Roy, Ronald R., Albert, Richard h., Wilson, Patrick, Laski, Ronald R., Roberts, James i., Hoffmann, Terry J., and Bong, Rodney L (1995). U.S. Food and Drug Administration pesticide program; incidence/level monitoring of domestic and imported pears and tomatoes. *Journal of AOAC International* 78: 930-40.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:718227
Chemical Abstracts Number: CAN 123:142139
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food contamination; Insecticides; Pear; Pesticides; Tomato (pesticides of domestic and imported pears and tomatoes in the USA); Pyrethrins and Pyrethroids Role: BOC (Biological occurrence), BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (pesticides of domestic and imported pears and tomatoes in the USA)
CAS Registry Numbers: 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-55-9 (DDE); 72-56-0 (Perthane); 75-15-0 (Carbon disulfide); 78-34-2 (Dioxathion); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 90-43-7 (o-Phenylphenol); 95-06-7 (Sulfallate); 99-30-9 (Dicloran); 111-54-6D (EBDC); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-34-9 (Simazine); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 584-79-2 (Allethrin); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 786-19-6 (Carbophenothion); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamide); 1113-02-6 (Omethoate); 1194-65-6 (Dichlobenil); 1582-09-8 (Trifluralin); 1861-32-1 (DCPA); 1897-45-6 (Chlorothalonil); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2425-06-1 (Captafol); 2439-01-2 (Oxythioquinox); 2921-88-2 (Chlorpyrifos); 5902-51-2 (Terbacil); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 8065-48-3 (Demeton); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 12122-67-7 (Zineb); 13171-21-6 (Phosphamidon); 15299-99-7 (Napropamide); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 19666-30-9 (Oxadiazon); 21087-64-9 (Metribuzin); 22248-79-9 (Gardona); 23135-22-0 (Oxamyl); 23422-53-9 (Formetanate hydrochloride); 23950-58-5 (Pronamide); 27314-13-2 (Norflurazon); 30560-19-1 (Acephate); 33820-53-0 (Isopropalin); 36734-19-7 (Iprodione); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60238-56-4 (Chlorthiophos); 66230-04-4 (Esfenvalerate); 70124-77-5 (Flucythrinate) Role: BOC (Biological occurrence), BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (pesticides of domestic and imported pears and tomatoes in the USA) In 1992-1993, the U.S. Food and Drug Administration (FDA) conducted a statistically

based study of pesticide residues in domestic and imported pears and tomatoes. For pears, 710 domestic and 949 imported samples were collected and analyzed; 79% of the domestic and 72 of the imported samples had detectable residues. Thiabendazole, a fungicide with postharvest uses, was found with greatest frequency in both groups of pears. Four domestic and 12 imported samples contained violative residues, mainly of pesticides for which there are no U.S. tolerances on pears. The statically weighted (by shipment size) violation rates for domestic and imported pears were 1.0 and 0.9%, resp. For tomatoes, 1219 domestic and 144 imported samples were collected and analyzed; 84% of the domestic and 91% of the imported samples had detectable residues. Methamidophos, an insecticide, had the greatest frequency of occurrence in both groups of tomatoes. Thirty-three domestic and 5 imported samples were violative, nearly all the result of acephate use, for which there is no U.S. tolerance on tomatoes. The statistically weighted violation rates for domestic and imported tomatoes were 1.9 and 7.0%, resp. The statistically weighted violation rates calcd. for domestic and imported pears and domestic tomatoes in this study were lower than those obsd. under FDA's regulatory monitoring in recent years. The violation rate for imported tomatoes was somewhat higher under statistical monitoring than under regulatory monitoring. The results of the statistically based study show that, as in regulatory monitoring, the levels of pesticide residues found are generally well below U.S. tolerances. [on SciFinder (R)] 1060-3271 pesticide/ tomato/ pear;/ insecticide/ tomato/ pear

1093. Roy, Ronald R., Wilson, Patrick, Laski, Ronald R., Roberts, James I., Weishaar, Joseph A., Bong, Rodney L., and Yess, Norma J (1997). Monitoring of domestic and imported apples and rice by the U.S. Food and Drug Administration Pesticide Program. *Journal of AOAC International* 80: 883-894.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:495603
Chemical Abstracts Number: CAN 127:175597
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Apple; Food contamination; Pesticides; Rice (monitoring of domestic and imported apples and rice by the U.S. Food and Drug Administration Pesticide Program)
CAS Registry Numbers: 51-03-6 (Piperonyl butoxide); 56-38-2 (Parathion); 58-89-9 (BHC); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 86-50-0 (Azinphos-methyl); 90-43-7 (o-Phenylphenol); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 148-79-8; 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 594-07-0D (Carbamodithioic acid); 732-11-6 (Phosmet); 1113-02-6 (Omethoate); 1825-21-4 (Pentachlorophenyl methyl ether); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Oxythioquinox); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 15299-99-7 (Napropamide); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 23135-22-0 (Oxamyl); 23422-53-9 (Formetanate hydrochloride); 29232-93-7 (Pirimiphos-methyl); 51630-58-1 (Fenvalerate); 52918-63-5 (Deltamethrin) Role: POL (Pollutant), OCCU (Occurrence) (monitoring of domestic and imported apples and rice by the U.S. Food and Drug Administration Pesticide Program)
Citations: 1) Yess, N; Pestic Outlook 1995, 6, 28
Citations: 2) U S Food And Drug Administration; J AOAC Int 1993, 76, 127A
Citations: 3) U S Food And Drug Administration; J AOAC Int 1994, 77, 161A
Citations: 4) U S Food And Drug Administration; J AOAC Int 1995, 78, 117A
Citations: 5) Pennington, J; J Assoc Off Anal Chem 1987, 70, 772
Citations: 6) Pennington, J; J AOAC Int 1996, 79, 163
Citations: 7) Anon; Pesticides:Better Sampling and Enforcement Needed on Imported Food 1986, 56
Citations: 8) Anon; Pesticides:Need to Enhance FDA's Ability To Protect the Public from Illegal

Residues 1986, 58
Citations: 9) Roy, R; J AOAC Int 1995, 78, 930
Citations: 10) Anon; Red Book Credit Services 1991
Citations: 11) Anon; Pesticide Analytical Manual, 3rd Ed, sec 302 E2 1994, I
Citations: 12) Anon; Pesticide Analytical Manual, 3rd Ed, sec 302 E2 + C1 (variation) 1994, I
Citations: 13) Anon; Pesticide Analytical Manual, sec 302 E2 + C4 + DL1, 3rd Ed 1994
Citations: 14) Wojtowicz, E; Lab Inf Bull 1992, 3650
Citations: 15) Niemann, R; J AOAC Int 1993, 76, 1362
Citations: 16) Keppel, G; J Assoc Off Anal Chem 1971, 54, 528
Citations: 17) Luh, B; Rice, 2nd Ed 1991, 2
Citations: 18) Anon; Pesticide Analytical Manual, 3rd Ed, sec 302 E4 1994, I
Citations: 19) Anon; Pesticide Analytical Manual, 3rd Ed, sec 302 C1 1994, I
Citations: 20) Anon; Pesticide Analytical Manual, 3rd Ed, sec 302 C3 + DL1 1994, I
Citations: 21) Kramer, J; Lab Inf Bull 1995, 3979
Citations: 22) Anon; Pesticide Analytical Manual, 3rd Ed, sec 404 1994, I
Citations: 23) U S Food And Drug Administration; J AOAC Int 1992, 75, 136A
Citations: 24) Anon; Pesticide Data Program:Annual Summary Calendar Year 1994 1996
Citations: 25) Frank, R; Food Addit Contam 1990, 7, 637
Citations: 26) Schattenberg, H; J AOAC Int 1992, 75, 925
Citations: 27) Gunderson, E; J AOAC Int 1995, 78, 1353 In 1993-94, the U.S. Food and Drug Administration (FDA) conducted a statistically based study of pesticide residues in domestic and imported fresh apples and processed rice. For apples, 769 domestic and 1062 imported samples were collected and analyzed; 85% of the domestic and 86% of the imported samples had detectable residues. Benomyl, a widely used fungicide, was found with greatest frequency in domestic apples, while diphenylamine was found most often in imported apples. One domestic and 4 imported samples contained violative residues of pesticides for which there are no U.S. tolerances on apples. The statistically weighted (by domestic packer throughput or import shipment size) violation rates for domestic and imported apples were 0.30% (0.13 unweighted) and 0.41% (0.38 unweighted), resp. For rice, 598 domestic and 612 imported samples were collected and analyzed; 56% of the domestic and 12% of the imported samples had detectable residues. Malathion had the greatest frequency of occurrence in both groups of rice. Eight domestic and 9 imported samples were violative, all as a result of use of pesticides for which there are no U.S. tolerances on rice. The statistically weighted violation rates for domestic and imported rice were 0.43% (1.3 unweighted) and 1.1% (1.5 unweighted), resp. Results of the statistically based study show that, as in FDA's regulatory monitoring, the levels of most pesticide residues found in these 2 commodities are generally well below U.S. tolerances, and few violative residues are found. [on SciFinder (R)] 1060-3271 pesticide/ apple/ rice/ contamination

1094. Ruden, Christina and Hansson, Sven Ove (2003). How accurate are the European Union's classifications of chemical substances. *Toxicology Letters* 144: 159-172.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:622045
Chemical Abstracts Number: CAN 140:212192
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Chemicals; Classification; Creosote; Standards (accuracy of European Union's classifications of chem. substances); Turpentine Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (accuracy of European Union's classifications of chem. substances); Toxicity (acute; accuracy of European Union's classifications of chem. substances)
CAS Registry Numbers: 51-34-3 (Scopolamine); 51-55-8 (Atropine); 51-79-6 (Ethyl urethane); 52-51-7 (2-Bromo-2-nitropropan-1,3-diol); 55-63-0 (Nitroglycerin); 56-23-5 (Carbon

tetrachloride); 58-08-2 (Caffeine); 60-51-5 (Dimethoate); 62-56-6 (2-Thiourea); 62-73-7 (Dichlorovos); 64-18-6 (Formic acid); 67-56-1 (Methanol); 70-25-7 (1-Methyl-3-nitro-1-nitrosoguanidine); 71-23-8 (1-Propanol); 71-43-2 (Benzene); 71-63-6 (Digitoxin); 74-83-9 (Bromomethane); 74-87-3 (Chloromethane); 74-95-3 (Dibromomethane); 75-01-4 (Chloroethene); 75-04-7 (Ethanamine); 75-05-8 (Acetonitrile); 75-07-0 (Acetaldehyde); 75-08-1 (Ethanethiol); 75-09-2 (Dichloromethane); 75-15-0 (Carbon disulfide); 75-21-8 (Ethylene oxide); 75-25-2 (Bromoform); 75-31-0 (Isopropylamine); 75-35-4 (1,1-Dichloroethene); 75-36-5 (Acetyl chloride); 75-75-2 (Methanesulfonic acid); 75-85-4 (2-Methyl-2-butanol); 76-01-7 (Pentachloroethane); 77-78-1 (Dimethyl sulfate); 78-11-5 (Pentaerythritol tetranitrate); 78-67-1 (2,2'-Azobis(2-methylpropionitrile); 78-90-0 (1,2-Propanediamine); 78-96-6 (1-Aminopropan-2-ol); 79-04-9 (Chloracetyl chloride); 79-10-7 (Acrylic acid); 79-22-1 (Chloroformic acid methyl ester); 79-27-6 (1,1,2,2-Tetrabromoethane); 79-34-5 (1,1,2,2-Tetrachloroethane); 81-82-3 (Coumachlor); 82-68-8 (Pentachloronitrobenzene); 83-26-1 (Pindone); 88-10-8; 88-85-7 (2-sec-Butyl-4,6-dinitrophenol); 90-04-0 (o-Anisidine); 90-41-5 (2-Biphenylamine); 90-43-7 (2-Phenylphenol); 92-13-7 (Pilocarpine); 92-43-3 (1-Phenyl-3-pyrazolidinone); 94-96-2 (2-Ethylhexane-1,3-diol); 95-53-4 (o-Toluidine); 95-54-5 (o-Phenylenediamine); 96-09-3 (Styrene oxide); 96-12-8 (1,2-Dibromo-3-chloropropane); 96-29-7 (2-Butanone oxime); 96-96-8 (4-Methoxy-2-nitroaniline); 97-02-9 (2,4-Dinitroaniline); 97-17-6; 97-99-4 (Tetrahydrofurfuryl alcohol); 98-00-0 (Furfuryl alcohol); 98-07-7 (Benzyl trichloride); 98-87-3 (a,a-Dichlorotoluene); 98-88-4 (Benzoyl chloride); 98-95-3 (Nitrobenzene); 99-35-4 (1,3,5-Trinitrobenzene); 100-00-5 (1-Chloro-4-nitrobenzene); 101-02-0 (Triphenyl phosphite); 101-77-9 (4,4'-Methylenedianiline); 101-90-6 (1,3-Bis(2,3-epoxypropoxy)benzene); 104-94-9 (p-Anisidine); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-87-6 (1,2-Epoxy-4-(epoxyethyl)cyclohexane); 107-05-1 (3-Chloropropene); 107-07-3 (2-Chloroethanol); 107-14-2 (Chloracetonitrile); 107-19-7 (2-Propyn-1-ol); 107-21-1 (1,2-Ethanediol); 107-22-2 (Glyoxal); 107-92-6 (Butyric acid); 108-30-5 (Succinic anhydride); 108-44-1 (m-Toluidine); 108-68-9 (3,5-Xylenol); 108-77-0 (2,4,6-Trichloro-1,3,5-triazine); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 108-91-8 (Cyclohexylamine); 108-95-2 (Phenol); 109-77-3 (Malononitrile); 109-86-4 (2-Methoxyethanol); 109-99-9 (Tetrahydrofuran); 110-49-6 (Ethylene glycol methyl ether acetate); 110-80-5 (2-Ethoxyethanol); 110-85-0 (Piperazine); 110-89-4 (Piperidine); 111-15-9 (2-Ethoxyethyl acetate); 111-44-4 (2,2'-Dichlorethyl ether); 112-57-2 (1,4,7,10,13-Pentaazatridecane); 115-29-7 (Endosulfan); 116-01-8 (Ethoate methyl); 117-18-0 (Tecnazene); 117-52-2 (3-(a-Acetonylfurfuryl)-4-hydroxycoumarin); 117-80-6 (Dichlone); 118-96-7 (2,4,6-Trinitrotoluene); 120-83-2 (2,4-Dichlorophenol); 121-29-9 (Pyrethrin II); 121-69-7 (N,N-Dimethylaniline); 121-79-9 (Propyl 3,4,5-trihydroxybenzoate); 121-87-9 (4-Nitro-2-chloroaniline); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 123-38-6 (Propionaldehyde); 123-54-6 (2,4-Pentanedione); 123-63-7 (2,4,6-Trimethyl-1,3,5-trioxane); 123-88-6 (Chloro(2-methoxyethyl)mercury); 126-73-8 (Tributyl phosphate); 137-05-3 (Methyl 2-cyanoacrylate); 141-32-2; 141-43-5 (2-Aminoethanol); 144-62-7 (Oxalic acid); 149-30-4 (2-Benzothiazolethiol); 156-62-7; 300-76-5 (Naled); 302-17-0 (Chloral hydrate); 333-41-5 (Diazinon); 485-31-4 (Binapacryl); 492-80-8 (4,4'-(Imidocarbonyl)bis(N,N-dimethylaniline); 545-06-2 (Trichloroacetonitrile); 556-56-9 (3-Iodopropene); 563-12-2 (Ethion); 563-80-4 (3-Methyl-2-butanone); 592-01-8 (Calcium cyanide); 593-60-2 (Bromoethene); 594-72-9 (1,1-Dichloro-1-nitroethane); 628-96-6 (Ethylene glycol dinitrate); 644-64-4 (Dimetilane); 693-21-0 (Diethylene glycol dinitrate); 731-27-1 (Tolylfluanide); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 818-61-1 (2-Hydroxyethyl acrylate); 868-77-9 (2-Hydroxyethyl methacrylate); 991-42-4 (Norbormide); 1024-57-3 (Heptachlor epoxide); 1070-70-8 (1,4-Butanediol diacrylate); 1120-71-4 (1,3-Propane sultone); 1303-28-2 (Arsenic pentoxide); 1306-19-0 (Cadmium oxide); 1306-23-6 (Cadmium sulfide); 1313-13-9 (Manganese dioxide); 1313-82-2 (Sodium sulfide); 1314-62-1 (Vanadium pentoxide); 1330-78-5 (Tricresyl phosphate); 1336-21-6 (Ammonium hydroxide); 1420-06-0 (Triphenmorphe); 1420-07-1 (Dinoterb); 1582-09-8 (Trifluraline); 1680-21-3 (Triethylene glycol diacrylate); 1698-60-8 (Chloridazon); 1912-24-9 (Atrazine); 2032-65-7 (Methiocarb); 2425-79-8 (1,4-Bis(2,3-epoxypropoxy)butane); 2597-03-7 (Fenthoate); 2703-37-9 (O,O-Dimethyl S-(2-ethylsulfinyl)ethyl dithiophosphate); 2778-04-3 (Endothion); 3524-68-3 (Pentaerythritol triacrylate); 3861-47-0 (Ioxynil octanoate); 4067-16-7 (Pentaethylenehexamine); 4074-88-8 (Diethylene glycol diacrylate); 5827-05-4 (o,o-Diisopropyl-S-ethylsulfinylmethyldithiophosphate); 5836-29-3 (Coumatetralyl); 6164-98-3 (Chlordimeform);

6834-92-0 (Disodium metasilicate); 6988-21-2 (Dioxacarb); 7173-51-5 (Dimethyldidecylammonium chloride); 7440-38-2 (Arsenic); 7601-89-0 (Perchloric acid sodium salt); 7601-90-3 (Perchloric acid); 7646-79-9 (Cobalt(II) chloride); 7646-85-7 (Zinc chloride); 7647-18-9 (Antimony pentachloride); 7664-38-2 (Phosphoric acid); 7723-14-0 (Phosphorus); 7733-02-0 (Zinc sulfate); 7761-88-8 (Silver(I) nitrate); 7778-50-9 (Potassium dichromate); 7782-49-2 (Selenium); 7789-06-2 (Strontium chromate); 7789-23-3 (Potassium fluoride); 7790-80-9 (Cadmium iodide); 7790-94-5 (Chlorosulfonic acid); 9080-17-5 (Ammonium polysulfide); 10004-44-1 (3-Hydroxy-5-methylisoxazole); 10025-87-3 (Phosphorus oxychloride); 10025-91-9 (Antimony trichloride); 10043-52-4 (Calcium chloride); 10049-04-4 (Chlorine oxide (ClO2); 13121-70-5 (Cyhexatin); 14484-64-1 (Ferbam); 16872-11-0 (Tetrafluoroboric acid); 16961-83-4 (Hexafluorosilicic acid); 19937-59-8 (Metoxuron); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 25311-71-1 (Isofenphos); 25646-71-3; 26399-36-0 (Profluralin); 26628-22-8 (Sodium azide); 26764-44-3; 28434-01-7 (Bioresmethrin); 29973-13-5 (Ethiofencarb); 31895-22-4; 39515-41-8 (2,2,3,3-Tetramethylcyclopropanecarboxylic acid cyano(3-phenoxyphenyl)methyl ester); 40487-42-1; 50864-67-0 (Barium polysulfide); 66230-04-4 (Esfenvalerate); 68359-37-5; 77402-03-0 (Methyl acrylamidoglycolate methyl ether); 79983-71-4 (RS-2-(2,4-Dichlorophenyl)-1-(1H-1,2,4-triazol-1-yl)hexan-2-ol); 83164-33-4 (Diflufenican); 96489-71-3 (2-tert-Butyl-5-(4-tert-butylbenzylthio)-4-chloropyridazin-3(2H)-one); 114369-43-6 (4-(4-Chlorophenyl)-2-phenyl-2-(1H-1,2,4-triazol-1-ylmethyl)butyronitrile) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (accuracy of European Union's classifications of chem. substances); 57-74-9 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (chlordane; accuracy of European Union's classifications of chem. substances)
Citations: Anon; Official Journal 1967, L196/1
Citations: Anon; Official Journal 2001, L225/1
Citations: Anon; Official Journal 2000, L136
Citations: Hansson, S; J Risk Res 2003, 6, 3
Citations: Kifs; Kemikalieinspektionens forfattningssamling 2001, 3 The European Commission has decided on harmonized classifications for a large no. of individual chems. according to its own directive for classification and labeling of dangerous substances. The authors have compared the harmonized classifications for acute oral toxicity to the acute oral toxicity data available in the RTECS database. Of the 992 substances eligible for this comparison, 15% were assigned a too low danger class and 8% a too high danger class according to the RTECS data. Due to insufficient transparency-scientific documentations of the classification decisions are not available-the causes of this discrepancy can only be hypothesized. It is proposed that the scientific motivations of future classifications be published and that the apparent over- and underclassifications in the present system be either explained or rectified, according to what are the facts in the matter. [on SciFinder (R)] 0378-4274 classification/ chem/ European/ Union;/ acute/ toxicity/ chem/ European/ Union

1095. Rueegg, Willy T (20040930). Synergistic herbicidal compositions comprising isoxazolinylsulfonylbenzoylpyrazole derivs. in combination with insecticides. 49 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 2004:799414
Chemical Abstracts Number: CAN 141:290557
Section Code: 5-3
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Bacillus sphaericus; Bacillus thuringiensis; Insecticides; Schoenocaulon (mixts. with isoxazolinylsulfonylbenzoylpyrazole derivs.; synergistic herbicidal compns.); Petroleum; Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. with isoxazolinylsulfonylbenzoylpyrazole derivs.; synergistic herbicidal compns.); Herbicides (synergistic; compns. comprising isoxazolinylsulfonylbenzoylpyrazole derivs. in combination with insecticides); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-

endotoxins, mixts. with isoxazolinylsulfonylbenzoylpyrazole derivs.0; synergistic herbicidal
compns.)
CAS Registry Numbers: 50-29-3D; 52-68-6D; 52-85-7D (Famphur); 54-11-5D (Nicotine); 55-38-
9D (Fenthion); 56-23-5D (Carbon tetrachloride); 56-38-2D (Parathion); 56-72-4D (Coumaphos);
58-89-9D (GammaHCH); 60-51-5D (Dimethoate); 60-57-1D (Dieldrin); 62-73-7D (Dichlorovos);
63-25-2D (,Carbaryl); 70-38-2D (Dimethrin); 72-54-8D (TDE); 74-83-9D (Methyl bromide); 74-
90-8D (Hydrogen cyanide); 75-15-0D (Carbon disulfide); 76-06-2D (Chloropicrin); 76-44-8D
(Heptachlor); 78-34-2D (Dioxathion); 78-53-5D (Amiton); 78-57-9D (Menazon); 83-79-4D
(Rotenone); 86-50-0D (Azinphosmethyl); 87-86-5D (Pentachlorophenol); 97-17-6D
(Dichlofenthion); 106-93-4D (Ethylene dibromide); 107-06-2D (Ethylene dichloride,<); 107-13-
1D (Acrylonitrile); 107-49-3D (TEPP); 112-80-1D (Oleic acid); 114-26-1D (Propoxur); 115-26-
4D (Dimefox); 115-29-7D (Endosulfan); 115-90-2D (Fensulfothion); 116-01-8D (Ethoatemethyl);
116-06-3D (Aldicarb); 119-12-0D (Pyridaphenthion); 121-75-5D; 122-14-5D (Fenitrothion); 126-
22-7D (Butonate); 126-75-0D (Demeton-S); 131-89-5D (Dinex); 141-66-2D (Dicrotophos); 143-
50-0D; 144-41-2D (Morphothion); 144-54-7D (Metam); 152-16-9D (Schradan); 297-78-9D
(Isobenzan); 298-00-0D (Parathion-methyl); 298-02-2D (Phorate); 298-03-3D (Demeton-O); 299-
84-3D; 299-86-5D (Crufomate); 300-76-5D (Naled); 301-12-2D (Oxydemeton-methyl); 309-00-
2D (Aldrin); 315-18-4D (Mexacarbate); 327-98-0D (Trichloronate); 333-41-5D; 370-50-3D
(Flucofuron); 371-86-8D (Mipafox); 465-73-6D (Isodrin); 470-90-6D; 494-52-0D (Anabasine);
533-74-4D (Dazomet); 534-52-1D (DNOC); 556-61-6D (Methyl isothiocyanate); 563-12-2D
(Ethion); 572-48-5D (Coumithoate); 584-79-2D (Bioallethrin); 640-15-3D (Thiometon); 644-64-
4D (Dimetilan); 671-04-5D (Carbanolate); 682-80-4D (,Demephion-O); 732-11-6D (,Phosmet);
786-19-6D (Carbophenothion); 919-76-6D (Amidithion); 919-86-8D (Demeton-S-methyl); 944-
22-9D (Fonofos); 947-02-4D (Phosfolan); 950-10-7D (Mephosfolan); 950-37-8D (Methidathion);
1113-02-6D (Omethoate); 1129-41-5D (Metolcarb); 1303-96-4D (Borax); 1344-81-6D (Calcium
polysulfide); 1563-66-2D (Carbofuran); 1563-67-3D (Decarbofuran); 1646-88-4D (Aldoxycarb);
2032-59-9D (Aminocarb); 2032-65-7D (Methiocarb); 2104-96-3D (,Bromophos); 2274-67-1D
(Dimethylvinphos); 2275-14-1D (Phenkapton); 2275-18-5D (Prothoate); 2275-23-2D
(Vamidothion); 2310-17-0D (Phosalone); 2385-85-5D (Mirex); 2425-10-7D (Xylylcarb); 2463-
84-5D (Dicapthon); 2497-07-6D (Oxydisulfoton); 2540-82-1D (Formothion); 2550-75-6D
(Chlorbicyclen); 2587-90-8D (Demephion-S); 2595-54-2D (Mecarbam); 2597-03-7D
(Phenthoate); 2631-37-0D (Promecarb); 2631-40-5D (Isoprocarb); 2636-26-2D (Cyanophos);
2642-71-9D (Azinphosethyl); 2655-14-3D (XMC<); 2655-19-8D (Butacarb); 2669-32-1D
(Lythidathion); 2674-91-1D (Oxydeprofos); 2699-79-8D (Sulfuryl fluoride); 2778-04-3D
(Endothion); 2921-88-2D (Chloropyrifos-); 3383-96-8D (Temephos); 3689-24-5D (Sulfotep);
3734-95-0D (Cyanthoate); 3761-41-9D (Mesulfenfos); 3766-81-2D (Fenobucarb); 3811-49-2D
(Dioxabenzofos); 4151-50-2D (Sulfluramid); 4824-78-6D (Bromophosethyl); 5221-49-8D
(Pyrimitate); 5598-52-7D (Fospirate); 5826-76-6D (Phosnichlor); 5827-05-4D (IPSP); 5834-96-
8D (Azothoate); 6164-98-3D (Chlordimeform); 6392-46-7 (Allyxycarb); 6923-22-4D
(Monocrotophos); 6988-21-2D (Dioxacarb); 7219-78-5D (Mazidox); 7292-16-2D (Propaphos);
7345-69-9D (GY-81); 7681-49-4D (Sodium fluoride); 7696-12-0D (Tetramethrin); 7700-17-6D
(Crotoxyphos); 7786-34-7D (Mevinphos); 7803-51-2D (Phosphine); 8001-35-2D (Camphechlor);
8022-00-2D (Demetonmethyl); 8065-36-9D (Bufencarb); 8065-48-3D (Demeton); 8065-62-1D
(Demephion); 10112-91-1D (Mercurous chloride); 10265-92-6D (Methamidophos); 10311-84-9D
(Dialifos); 10453-86-8D (Resmethrin); 11141-17-6D (Azadirachtin); 12407-86-2D
(Trimethacarb); 12789-03-6D (Chlordane); 13067-93-1D (Cyanofenphos); 13071-79-9D
(Terbufos); 13171-21-6D (Phosphamidon); 13194-48-4D (Ethoprophos); 13457-18-6D
(Pyrazophos); 13593-03-8D (Quinalphos); 13593-08-3D (Quinalphosmethyl); 14816-16-1D
(Phoximmethyl); 14816-18-3D (Phoxim); 14816-20-7D; 15096-52-3D (Cryolite); 15263-53-3D
(Cartap); 15589-31-8D (Terallethrin); 16752-77-5 (Methomyl); 16893-85-9D (Sodium
hexafluorosilicate); 17040-19-6D; 17080-02-3D (Furethrin); 17606-31-4D (Bensultap); 18809-57-
9D (EMPC); 19691-80-6D (Athidathion); 20425-39-2D (Pyresmethrin); 20859-73-8D
((Aluminum phosphide); 21548-32-3D (Fosthietan); 22248-79-9D; 22259-30-9D (Formetanate);
22439-40-3D (Quinothion); 22781-23-3D (Bendiocarb); 23031-36-9D (Prallethrin); 23103-98-2D
(Pirimicarb); 23135-22-0D (Oxamyl); 23505-41-1D (Pirimiphosethyl); 23560-59-0D
(Heptenophos); 24017-47-8D (Triazofos); 24019-05-4D (Sulcofuron); 24934-91-6D; 25171-63-

5D (,Thiocarboxime); 25311-71-1D (Isofenphos); 25601-84-7D (Methocrotophos); 26002-80-2D (Phenothrin); 28434-00-6D (S-Bioallethrin); 28434-01-7D (Bioresmethrin); 29104-30-1D (Benzoximate); 29173-31-7D (Mecarphon); 29232-93-7D (Pirimiphosmethyl); 29672-19-3D (Nitrilacarb); 29973-13-5D (Ethiofencarb); 30087-47-9D (Fenethacarb); 30560-19-1D (Acephate); 30864-28-9D (Methacrifos); 31218-83-4D (Propetamphos); 31377-69-2D (Pirimetaphos); 31895-21-3D (Thiocyclam); 33089-61-1D (Amitraz); 33399-00-7D (Bromfenvinfos); 34264-24-9D (Promacyl); 34643-46-4D (Prothiofos); 34681-10-2D (Butocarboxim); 34681-23-7D (Butoxycarboxim); 35367-38-5D (Diflubenzuron); 35400-43-2D (Sulprofos); 35575-96-3D (Azamethiphos); 36145-08-1D (Chlorprazophos); 37032-15-8D (Sophamide<); 38260-54-7D (ETrimfos); 38260-63-8D (Lirimfos); 38524-82-2D (Trifenofos); 39196-18-4D (Thiofanox); 39247-96-6D (Primidophos); 39515-40-7D (Cyphenothrin); 39515-41-8D (Fenpropathrin); 40085-57-2D (Tazimcarb); 40596-69-8D (Methoprene); 40596-80-3D (Triprene); 41096-46-2D (Hydroprene<); 41198-08-7D (Profenofos); 41219-32-3D (Thicrofos); 42509-80-8D (Isazofos); 42588-37-4D (Kinoprene); 50864-67-0D (Barium polysulfide); 51596-10-2D (Milbemectin); 51630-58-1D (Fenvalerate); 51877-74-8D (Biopermethrin); 52207-48-4D (Thiosultapsodium); 52315-07-8D (Betacypermethrin); 52645-53-1D (Permethrin); 52918-63-5D (Deltamethrin); 54406-48-3D (Empenthrin); 54593-83-8D (Chlorethoxyfos); 55285-14-8D (Carbosulfan); 57342-02-6D (Epofenonane); 57960-19-7D (Acequinocyl); 58769-20-3D (RU 15525); 58842-20-9 (Nithiazine); 59669-26-0D (Thiodicarb); 60238-56-4D (Chlorthiophos); 60589-06-2D (Metoxadiazone); 61444-62-0D (Nifluridide); 61949-77-7D (Trans-Permethrin); 63837-33-2D (DIofenolan); 63935-38-6D (Cycloprothrin); 64628-44-0D (Triflumuron); 65907-30-4D (Furathiocarb); 66215-27-8D (Cyromazine); 66230-04-4D (Esfenvalerate); 66841-25-6D (Tralomethrin); 67375-30-8D (Alphacypermethrin); 67485-29-4D (Hydramethylnon); 68085-85-8D (Cyhalothrin); 68359-37-5D (Betacyfluthrin); 68523-18-2D (Fenpirithrin); 69327-76-0D (Buprofezin); 69409-94-5D (Fluvalinate); 69770-45-2D (Flumethrin); 70124-77-5D (Flucythrinate); 71422-67-8D (Chlorfluazuron); 71697-59-1D (Thetacypermethrin); 71751-41-2D (Abamectin); 72490-01-8D (Fenoxycarb); 72963-72-5D (Imiprothrin); 75867-00-4D (Fenfluthrin); 79538-32-2D (Tefluthrin); 80060-09-9D (Diafenthiuron); 80844-07-1D (Etofenprox); 82560-54-1D (Benfuracarb); 82657-04-3D (Bifenthrin); 83121-18-0D (Teflubenzuron); 83130-01-2D (Alanycarb); 83733-82-8D (Fosmethilan,<); 84466-05-7D (Amidoflumet); 86479-06-3D (Hexaflumuron); 89784-60-1D (Pyraclofos); 90338-20-8D (Butathiofos); 91465-08-6D; 95465-99-9D (Cadusafos); 95737-68-1D (Pyriproxyfen); 96182-53-5D (Tebupirimfos); 96489-71-3D (Pyridaben); 98886-44-3D (Fosthiazate); 101007-06-1D (Acrinathrin); 102851-06-9D (Taufluvalinate); 103055-07-8D (Lufenuron); 105024-66-6D (Silafluofen); 105779-78-0D (Pyrimidifen); 107713-58-6D (Flufenprox); 111988-49-9D (Thiacloprid); 112143-82-5D (Triazamate); 112226-61-6D (Halofenozide); 112410-23-8D (Tebufenozide); 112636-83-6D (Dicyclanil); 113036-88-7D (Flucycloxuron); 114282-89-2D (,Methoxychloro); 114797-39-6D (Methothrin); 116714-46-6D (Novaluron); 118712-89-3D (Transfluthrin); 119791-41-2D (Emamectin); 120068-37-3D (Fipronil); 121451-02-3D (Noviflumuron); 122453-73-0D (Chlorfenapyr); 122705-57-1D; 123312-89-0D (Pymetrozine); 129558-76-5D (Tolfenpyrad); 135410-20-7D (Acetamiprid); 138261-41-3D (,Imidacloprid); 143807-66-3D (Chromafenozide); 148477-71-8D (Spirodiclofen); 149877-41-8D (Bifenazate); 150824-47-8D (,Nitenpyram); 153233-91-1D (Etoxazole); 153719-23-4D (Thiamethoxam); 158062-67-0D (Flonicamid); 160791-64-0D (ZXI 8901); 161050-58-4D (Methoxyfenozide); 165252-70-0D (Dinotefuran); 168316-95-8D (,Spinosad); 170015-32-4D (,Flufenerim); 173584-44-6D (Indoxacarb); 179101-81-6D (Pyridalyl); 181587-01-9D (Ethiprole); 201593-84-2D (Bistrifluron); 209861-58-5D (Acetoprole); 210576-74-2D; 210631-68-8D; 210880-92-5D (Clothianidin); 229977-93-9D (Fluacrypyrim); 231937-89-6D; 283594-90-1D (Spiromesifen); 500790-39-6D; 548460-64-6D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic herbicidal compns.)

PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: CH
Priority Application Number: 2003-438
Priority Application Date: 20030318
Citations: Wolfgang Von, D; WO 9965314 A 1999
Citations: Rueegg, W; WO 02087322 A 2002 A synergistic herbicidal compn. comprises: I (R = alkyl or Cl; R1 = H or alkyl; R2 = alkyl) and any of a very large no. of insecticides. [on SciFinder (R)] A01N043-80. synergism/ herbicide/ compn/ isoxazolinylsulfonylbenzoylpyrazole/ deriv/ insecticide

1096. Rueegg, Willy Thaddaeus, Urwiler, Michael Joseph, and Clemens, Christoplher Glen (20050616). Herbicidal combinations comprising a HPPD-inhibiting herbicide and an insecticide. 48 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 2005:523211
Chemical Abstracts Number: CAN 143:39502
Section Code: 5-3
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Herbicides; Insecticides (herbicidal combinations comprising a HPPD-inhibiting herbicide and an insecticide); Bacillus sphaericus; Bacillus thuringiensis; Schoenocaulon (mixts. with HPPD-inhibiting herbicides; herbicidal combinations); Petroleum; Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. with HPPD-inhibiting herbicides; herbicidal combinations); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, mixts. with HPPD-inhibiting herbicides; herbicidal combinations)
CAS Registry Numbers: 1912-24-9D (Atrazine); 7440-50-8D (Copper); 87392-12-9D (S-Metolachlor); 98730-04-2D (Benoxacor); 104206-82-8D (Mesotrione); 104206-82-8D (Mesotrione); 156963-66-5D; 187270-87-7D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (herbicidal combination); 50-29-3D; 52-68-6D; 54-11-5D (Nicotine); 55-38-9D (Fenthion); 56-23-5D (Carbon tetrachloride); 56-38-2D (Parathion); 56-72-4D (Coumaphos); 58-89-9D (GammaHCH); 60-51-5D (Dimethoate); 60-57-1D (Dieldrin); 62-73-7D (Dichlorovos); 63-25-2D (Carbaryl); 70-38-2D (Dimethrin); 72-43-5D (Methoxychlor); 72-54-8D (TDE); 74-83-9D (Methyl bromide); 74-90-8D (Hydrogen cyanide); 75-15-0D (Carbon disulfide); 76-06-2D (Chloropicrin); 76-44-8D (Heptachlor); 78-34-2D (Dioxathion); 78-53-5D (Amiton); 78-57-9D (Menazon); 83-79-4D (Rotenone); 86-50-0D (Azinphosmethyl); 87-86-5D (Pentachlorophenol); 97-17-6D (Dichlofenthion); 106-93-4D (Ethylene dibromide); 107-06-2D (Ethylene dichloride); 107-13-1D (Acrylonitrile); 107-49-3D (TEPP); 112-80-1D (Oleic acid); 114-26-1D (Propoxur); 115-26-4D (Dimefox); 115-29-7D (Endosulfan); 115-90-2D (Fensulfothion); 116-01-8D (Ethoatemethyl); 116-06-3D (Aldicarb); 119-12-0D (Pyridaphenthion); 121-75-5D (Malathion); 122-14-5D (Fenitrothion); 126-22-7D (Butonate); 126-75-0D (Demeton-S); 131-89-5D (Dinex); 141-66-2D (Dicrotophos); 143-50-0D; 144-41-2D (Morphothion); 144-54-7 (Metam); 152-16-9D (Schradan); 297-78-9D (Isobenzan); 298-00-0D (Parathion-methyl); 298-02-2D (Phorate); 298-03-3D (Demeton-O); 298-04-4D (Disulfoton); 299-86-5D (Crufomate); 300-76-5D (Naled); 301-12-2D (Oxydemetonmethyl); 309-00-2D (Aldrin); 315-18-4D (Mexacarbate); 327-98-0D (Trichloronat); 333-41-5D; 370-50-3D (Flucofuron); 371-86-8D (Mipafox); 465-73-6D (Isodrin); 470-90-6D; 494-52-0D (Anabasine); 533-74-4D (Dazomet); 534-52-1D (DNOC); 556-61-6D (Methyl isothiocyanate); 563-12-2D (Ethion); 572-48-5D (Coumithoate); 584-79-2D (Bioallethrin); 640-15-3D (Thiometon); 644-64-4D (Dimetilan); 671-04-5D (Carbanolate); 682-80-4D (Demephion-O); 732-11-6D (Phosmet); 786-19-6D (Carbophenothion); 867-27-6D (Demeton-O-methyl); 919-76-6D (Amidithion); 919-86-8D (,Demeton-S-methyl); 944-22-9D (Fonofos); 947-02-4D (Phosfolan); 950-10-7D (Mephosfolan);

950-37-8D (Methidathion); 1071-83-6D (Glyphosate); 1113-02-6D (Omethoate); 1129-41-5D (Metolcarb); 1303-96-4D (Borax); 1344-81-6D (Calcium polysulfide); 1563-66-2D (Carbofuran); 1563-67-3D (Decarbofuran); 1646-88-4D (Aldoxycarb); 1912-24-9D (Atrazine); 1918-00-9D (Dicamba); 2032-59-9D (Aminocarb); 2032-65-7D (Methiocarb); 2104-64-5D (EPN); 2104-96-3D (Bromophos); 2274-67-1D (Dimethylvinphos); 2275-14-1D (Phenkapton); 2275-18-5D (Prothoate); 2275-23-2D (Vamidothion); 2310-17-0D (Phosalone); 2385-85-5D (Mirex); 2425-10-7D (Xylylcarb); 2463-84-5D (Dicapthon); 2497-07-6D (Oxydisulfoton); 2540-82-1D (Formothion); 2550-75-6D (Chlorbicyclen); 2587-90-8D (Demephion-S); 2595-54-2D (Mecarbam); 2597-03-7D (Phenthoate); 2631-37-0D (Promecarb); 2631-40-5D (Isoprocarb); 2636-26-2D (Cyanophos); 2642-71-9D (Azinphosethyl); 2655-14-3D (XMC); 2655-19-8D (Butacarb); 2669-32-1D (Lythidathion); 2674-91-1D (Oxydeprofos); 2699-79-8D (Sulfuryl fluoride); 2778-04-3D (Endothion); 2921-88-2D (,Chloropyrifos); 3383-96-8D (Temephos); 3689-24-5D (Sulfotep); 3734-95-0D (Cyanthoate); 3761-41-9D (Mesulfenfos); 3766-81-2D (Fenobucarb); 3811-49-2D (Dioxabenzofos); 4151-50-2D (Sulfluramid); 4234-79-1D (Kelevan); 4824-78-6D (Bromophosethyl); 5221-49-8D (Pyrimitate); 5598-13-0D; 5598-52-7D (Fospirate); 5826-76-6D (Phosnichlor); 5827-05-4D (IPSP); 5834-96-8D (Azothoate); 5915-41-3D (Terbuthylazine); 6164-98-3D (Chlordimeform); 6392-46-7D (Allyxycarb); 6923-22-4D (Monocrotophos); 6988-21-2D (Dioxacarb); 7219-78-5D (Mazidox); 7292-16-2D (PRopaphos); 7345-69-9D (GY-81); 7681-49-4D (,Sodium fluoride); 7700-17-6D (Crotoxyphos); 7786-34-7D (Mevinphos); 7803-51-2D (Phosphine); 8001-35-2D (Camphechlor); 8022-00-2D (Demetonmethyl); 8065-36-9D (Bufencarb); 8065-48-3D (Demeton); 8065-62-1 (Demephion); 10112-91-1D (Mercurous chloride); 10265-92-6D (Methamidophos); 10311-84-9D (Dialifos); 10453-86-8D (Resmethrin); 11141-17-6D (Azadirachtin); 12407-86-2D (Trimethacarb); 12789-03-6D (Chlordane); 13067-93-1D (Cyanofenphos); 13171-21-6D (Phosphamidon); 13194-48-4D (Ethoprophos); 13457-18-6D (Pyrazophos); 13593-03-8D (Quinalphos); 13593-08-3D (Quinalphosmethyl); 14816-16-1D (Phoximmethyl,.); 14816-18-3D (Phoxim); 14816-20-7D; 15096-52-3D (Cryolite); 15263-53-3D (Cartap); 15589-31-8D (Terallethrin); 16752-77-5D (Methomyl); 16893-85-9D (Sodium hexafluorosilicate); 17040-19-6D; 17080-02-3D (Furethrin); 17606-31-4D (Bensultap); 18181-70-9D (Jodfenphos); 18809-57-9 (EMPC); 18854-01-8D (Isoxathion); 19691-80-6D (Athidathion); 20425-39-2D (Pyresmethrin); 21548-32-3D (Fosthietan); 22259-30-9D (Formetanate); 22439-40-3D (Quinothion); 22781-23-3D (Bendiocarb); 23031-36-9 (Prallethrin); 23103-98-2D (Pirimicarb); 23135-22-0D (Oxamyl); 23505-41-1D (Pirimiphosethyl); 23560-59-0D (,Heptenophos); 24017-47-8D (Triazofos); 24353-61-5D; 24934-91-6D; 25171-63-5D (Thiocarboxime); 25311-71-1D (Isofenphos); 25601-84-7D (Methocrotophos); 26002-80-2D (Phenothrin); 28434-00-6D (S-Bioallethrin); 28434-01-7D (Bioresmethrin); 29104-30-1D (Benzoximate); 29173-31-7D (Mecarphon); 29232-93-7D (Pirimiphosmethyl); 29672-19-3D (Nitrilacarb); 29973-13-5D (Ethiofencarb); 30560-19-1D (Acephate); 30864-28-9D (Methacrifos); 31218-83-4D (Propetamphos); 31377-69-2D (Pirimetaphos); 31895-21-3D (Thiocyclam); 33089-61-1D (Amitraz); 33399-00-7D (Bromfenvinfos); 34264-24-9D (Promacyl); 34643-46-4D (Prothiofos); 34681-10-2D (Butocarboxim); 34681-23-7D (Butoxycarboxim); 35367-38-5D (Diflubenzuron); 35400-43-2D (Sulprofos); 35575-96-3D (Azamethiphos); 36145-08-1D (Chlorprazophos); 36614-38-7D (Isothioate); 37764-25-3D (Dichlormid); 38260-63-8D (Lirimfos); 38524-82-2D (Trifenofos); 39196-18-4D (,Thiofanox); 39247-96-6D (Primidophos); 39515-40-7D (Cyphenothrin); 39515-41-8D (Fenpropathrin); 40085-57-2D (Tazimcarb); 40596-69-8D (Methoprene); 40596-80-3D (Triprene); 41096-46-2D (Hydroprene); 41198-08-7D (Profenofos); 41219-31-2D (Dithicrofos); 41219-32-3D (Thicrofos); 42509-80-8D (Isazofos); 42588-37-4D (Kinoprene); 50864-67-0D (Barium polysulfide); 51218-45-2D (Metolachlor); 51596-10-2D (Milbemectin); 51630-58-1D (Fenvalerate); 51877-74-8D (Biopermethrin); 52207-48-4D (Thiosultapsodium); 52315-07-8 (Cypermethrin); 52315-07-8D (Zetacypermethrin); 52645-53-1 (Permethrin); 52918-63-5D (Deltamethrin); 54406-48-3 (Empenthrin); 54593-83-8D (Chlorethoxyfos); 55285-14-8D (Carbosulfan); 57342-02-6D (Epofenonane); 57960-19-7D (Acequinocyl); 58769-20-3D (RU 15525); 58842-20-9D (Nithiazine); 59669-26-0D (Thiodicarb); 60238-56-4D (Chlorthiophos); 60589-06-2D (Metoxadiazone); 61444-62-0D (Nifluridide); 61949-77-7D (trans-Permethrin); 63837-33-2D (Diofenolan); 63935-38-6 (Cycloprothrin); 64628-44-0D (Triflumuron); 65907-30-4D (Furathiocarb); 66215-27-8D (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6D

(Tralomethrin); 67375-30-8D (Alphacypermethrin); 67485-29-4D (Hydramethylnon); 68085-85-8D (Cyhalothrin); 68359-37-5D (Betacyfluthrin); 68523-18-2D (Fenpirithrin); 69327-76-0D (Buprofezin); 69409-94-5D (Fluvalinate); 69770-45-2D (Flumethrin); 70124-77-5D (Flucythrinate); 71422-67-8D (Chlorfluazuron); 71697-59-1D (Thetacypermethrin); 71751-41-2D (Abamectin); 72490-01-8D (Fenoxycarb); 72850-64-7D (Flurazole); 72963-72-5D (Imiprothrin); 75867-00-4D (Fenfluthrin); 79538-32-2D (Tefluthrin); 80060-09-9 (Diafenthiuron); 82560-54-1D (Benfuracarb); 82657-04-3D (Bifenthrin); 83121-18-0D (Teflubenzuron); 83130-01-2D (Alanycarb); 83733-82-8 (Fosmethilan); 84466-05-7D (Amidoflumet); 86479-06-3D (HExaflumuron); 87392-12-9D (s-Metolachlor); 88349-88-6D (Cloquintocet); 88485-37-4D (Fluxofenim); 89784-60-1D (Pyraclofos); 90338-20-8D (Butathiofos); 91465-08-6D; 94125-34-5D (Prosulfuron); 95465-99-9D (Cadusafos); 95737-68-1D (Pyriproxyfen); 96182-53-5D (Tebupirimfos); 96489-71-3D (Pyridaben); 98730-04-2D (,Benoxacor); 98886-44-3D (Fosthiazate); 101007-06-1D (Acrinathrin); 102851-06-9D (Taufluvalinate); 103055-07-8D (Lufenuron); 105024-66-6D (Silafluofen); 105779-78-0D (Pyrimidifen); 107713-58-6D (Flufenprox); 111988-49-9D (Thiacloprid); 111991-09-4D (Nicosulfuron); 112143-82-5D (Triazamate); 112226-61-6D (Halofenozide); 112410-23-8D (Tebufenozide); 112636-83-6D (Dicyclanil); 113036-87-6D (Primisulfuron); 113036-88-7D (Flucycloxuron); 114797-39-6D (Methothrin); 116714-46-6D (Novaluron); 118712-89-3D (Transfluthrin); 119791-41-2D (Emamectin); 120068-37-3D (Fipronil); 121451-02-3 (Noviflumuron); 121776-33-8D (Furilazole); 122453-73-0D (Chlorfenapyr); 122705-57-1D; 122931-48-0D (Rimsulfuron); 123312-89-0D (Pymetrozine); 129558-76-5D (Tolfenpyrad); 135410-20-7D (Acetamiprid); 138261-41-3D (Imidacloprid); 143807-66-3D (Chromafenozide); 145099-21-4D (Trifloxysulfuron.); 148477-71-8D (Spirodiclofen); 149877-41-8D (Bifenazate); 150824-47-8D (Nitenpyram); 153233-91-1D (Etoxazole); 153719-23-4D (Thiamethoxam); 158062-67-0D (Flonicamid); 160791-64-0D (ZXI 8901.); 161050-58-4D (MEthoxyfenozide); 163515-14-8D (Dimethenamid P); 165252-70-0D (Dinotefuran); 170015-32-4D (Flufenerim); 173159-57-4D (Foramsulfuron); 173584-44-6D (Indoxacarb); 179101-81-6D (Pyridalyl); 181587-01-9D (Ethiprole); 201593-84-2D (Bistrifluron); 209861-58-5D (Acetoprole); 209866-92-2D (Isoxadifen); 210880-92-5D (Clothianidin); 229977-93-9D (Fluacrypyrim); 231937-89-6D; 283594-90-1D (Spiromesifen); 500790-39-6D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (herbicidal combinations)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2003-526053
Priority Application Date: 20031201
Citations: Syngenta Participations Ag Basel; DE 102004012192 A1 2004
Citations: Rueegg, W; WO 2004082382 A1 2004
Citations: Zeneca Limited; WO 0195722 A1 2001
Citations: Zeneca Limited; WO 9727748 A1 1997
Citations: Gamblin, A; WO 9515691 A1 1995
Citations: Nishiyama; US 4230481 A 1980 Aherbicidal combination comprises an HPPD-inhibiting herbicide (certain exceptions), such as isoxazoles, triketones, pyrazoles, benzobicyclon and ketospiradox, preferably mesotrione, and any of a very large no. of insecticides. [on SciFinder (R)] A01N043-90. A01N043-80; A01N043-40; A01N043-56; A01N041-10; A01N057-16; A01N057-12; A01N053-00; A01N043-84; A01N043-70; A01N037-22; A01N051-00. HPPD/ inhibiting/ herbicide/ insecticide/ compn

1097. Ryzhov, I. V., Slepokurov, M. V., Lapin, I. P., Mandel'shtam, I. U. E., and Aleksandrov, V. G. (1986).

[Effect of Excitant Amino Acid Antagonists on Glutamate Receptors in the Locust and on Convulsions Induced by Glutamate, Aspartate, Kynurenine and Quinolinic Acid in Mice]. *Biull Eksp Biol Med* 101: 322-325.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: All excitatory amino acid antagonists studied: diethyl esters of aspartic (DEEA) and glutamic (DEEG) acids, 2-amino-3-phosphono-propionic acid (APPA) and 2-amino-4-phosphono-butanoic acid (APBA), diminished the amplitude of excitatory postsynaptic potentials (EPP) of the locust (Locusta migratoria migratorioides) muscle fibers and arbitrary blocked glutamate (GLU) and aspartate (ASP) responses. Kynurenine (KYN) and quinolinic (QUI) acid had no effect on EPP even at a concentration of 2 X 10(-2) M. The antagonists were not strictly selective against intracerebroventricularly administered endogenous convulsants: GLU, ASP, KYN and QUI and in simulation of experimental seizures in mice. The antagonists structurally similar to ASP prevented ASP- and KYN-induced seizures in lower doses than GLU derivatives. Anti-KYN, but not anti-QUI DEEA, DEEG, APPA and APBA efficacy suggests that KYN and QUI act on different structures or binding sites.
MESH HEADINGS: Alanine/analogs &amp
MESH HEADINGS: derivatives/antagonists &amp
MESH HEADINGS: inhibitors
MESH HEADINGS: Amino Acids/*antagonists &amp
MESH HEADINGS: inhibitors
MESH HEADINGS: Aminobutyric Acids/antagonists &amp
MESH HEADINGS: inhibitors
MESH HEADINGS: Animals
MESH HEADINGS: Aspartic Acid/*toxicity
MESH HEADINGS: Dose-Response Relationship, Drug
MESH HEADINGS: Drug Evaluation, Preclinical
MESH HEADINGS: Glutamates/*metabolism/*toxicity
MESH HEADINGS: Glutamic Acid
MESH HEADINGS: Grasshoppers/*drug effects
MESH HEADINGS: Kynurenine/*toxicity
MESH HEADINGS: Male
MESH HEADINGS: Membrane Potentials/drug effects
MESH HEADINGS: Mice
MESH HEADINGS: Muscles/drug effects
MESH HEADINGS: Pyridines/*toxicity
MESH HEADINGS: Quinolinic Acid
MESH HEADINGS: Quinolinic Acids/*toxicity
MESH HEADINGS: Receptors, Glutamate
MESH HEADINGS: Receptors, Neurotransmitter/*drug effects
MESH HEADINGS: Seizures/chemically induced/*drug therapy
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Vliianie antagonistov vozbuzhdaiushchikh aminokislot na glutamatnye retseptory saranchi i sudorogi, vyzvannye glutamatom, aspartatom, kinureninom i khinolinovoĭ kislotoĭ na myshakh.

1098. Saavedra-P, J. (1989). Anthonomus Vestitus in Piura, Peru: Its Susceptibility to Insecticides Tested in Laboratory. *Rev peru entomol* 32: 43-46.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The main interest of this work was to find an insecticide with an inmediate lethal action and a short-period effect against "Peruvian cotton square-weevil", in order to use it in monitoring this insect in mesquite or "algarrobo" (Prosopis spp.) natural vegetation; and besides, to know the efficience of other products actually used to control this pest in Piura valleys. - Adults of Anthonomus vestitus Bohemann, obtained from a laboratory masal rearing were used. To test the inmediate lethal action the insecticides were

distributed on the inner part of petri dishes where the weevils were introduced and maintained inside during 5, 10 and 20 minutes. To probe the residual effect, other weevils were introduced into petri dishes treated 1, 2, 4 and 6 days before and maintained inside during 20 minutes. The results showed that methyl-parathion 0.4% commercial product killed all weevils, having a maximum residual effect of 6 days. Dicrotophos and ethyl-parathion 0.4% commercial
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: NECROSIS/PATHOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: TEXTILES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: LEGUMES
MESH HEADINGS: PLANTS
MESH HEADINGS: COLEOPTERA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Pathology
KEYWORDS: Toxicology-General
KEYWORDS: Agronomy-Fiber Crops
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Leguminosae
KEYWORDS: Malvaceae
KEYWORDS: Coleoptera
LANGUAGE: spa

1099. Sabik, H. and Jeannot, R (2000). Stability of organophosphorus insecticides on graphitized carbon black extraction cartridges used for large volumes of surface water. *Journal of Chromatography, A* 879: 73-82.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2000:322691
Chemical Abstracts Number: CAN 132:352362
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.

Index Terms: Graphitized carbon black Role: DEV (Device component use), NUU (Other use, unclassified), TEM (Technical or engineered material use), USES (Uses) (extractant/sorbent; storage conditions effect on stability of organophosphorus insecticides sorbed on graphitized carbon black extn. cartridges for subsequent gas chromatog. surface water anal.); Insecticides (organophosphorus; storage conditions effect on stability of organophosphorus insecticides sorbed on graphitized carbon black extn. cartridges for subsequent gas chromatog. surface water anal.); Storage (sorbed insecticides; storage conditions effect on stability of organophosphorus insecticides sorbed on graphitized carbon black extn. cartridges for subsequent gas chromatog. surface water anal.); Preservation (storage conditions effect on stability of organophosphorus insecticides sorbed on graphitized carbon black extn. cartridges for subsequent gas chromatog. surface water anal.)
CAS Registry Numbers: 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 2104-64-5 (EPN); 2642-71-9 (Azinphos-ethyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (storage conditions effect on stability of organophosphorus insecticides sorbed on graphitized carbon black extn. cartridges for subsequent gas chromatog. surface water anal.); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (surface water; storage conditions effect on stability of organophosphorus insecticides sorbed on graphitized carbon black extn. cartridges for subsequent gas chromatog. surface water anal.)
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Citations: 2) Munch, D; Environ Sci Technol 1992, 26, 921
Citations: 3) Barcelo, D; J Chromatogr A 1993, 643, 117
Citations: 4) Jeannot, R; Int J Environ Anal Chem 1994, 57, 231
Citations: 5) Jones, T; Organophosphorus Pesticide Standards: Stability Study 1992, EPA 600/X-92/040
Citations: 6) Martin-Esteban, A; Int J Environ Anal Chem 1997, 67, 125
Citations: 7) Crescenzi, C; Environ Sci Technol 1995, 29, 2185
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Citations: 11) Rondeau, B; Pesticides dans les Tributaires du Fleuve Saint-Laurent 1989-1991 1996, ST-62
Citations: 12) Sabik, H; Analusis 1997, 25, 267
Citations: 13) Sabik, H; Int J Environ Anal Chem 1998, 72, 113
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Citations: 15) Sabik, H; J Chromatogr A 1998, 818, 197
Citations: 16) Rondeau, B; to be published in Environment Canada - Quebec Region Environmental, Conservation 2000
Citations: 17) Cossa, D; Environmental Conservation 1996, Working Document DT-5
Citations: 18) Cossa, D; Environmental Conservation 1998, Working Document ST-163
Citations: 19) Gorse, I; Bilan des Ventes de Pesticides au Quebec en 1995 1997
Citations: 20) Lartiges, S; Environ Sci Technol 1995, 29, 1246
Citations: 21) Bussiere, J; Environ Toxicol Chem 1989, 8, 1125
Citations: 22) Faust, S; Environ Lett 1972, 3, 171
Citations: 23) Freed, V; J Agric Food Chem 1979, 27, 706
Citations: 24) Sensei, N; Toxic Organic Chemicals in Porous Media (Ecological Studies 73) 1989, 37 The stability of 9 organophosphorus insecticides (azinphos-Et, azinphos-Me, diazinon, EPN, ethion, fonofos, malathion, phosmet, parathion-methyl) was evaluated under a variety of storage conditions. Large vols. of surface water (4 l) were extd. using large particle-size graphitized carbon black cartridges (Carbopack B 60-80 mesh). The effect of temp., matrix type, and cartridge drying on recovery of these pollutants, after different storage periods, was studied and compared to the conservation of surface water in bottles. After a 2-mo period, all chems. stored on cartridges and kept at -20 Deg remained stable, with recoveries of 70-134%. By contrast, phosmet and EPN could no longer be recovered from the bottled surface water. Cartridges kept at -20 Deg fared better than did those stored at 4 Deg and 20 Deg. The type of matrix water selected

appears to have kept the target pesticides stored on cartridges from degrading, compared to Milli-Q water, in which malathion and phosmet were unstable. The effect of cartridges being either wet or dry made no difference in terms of improving pesticide recovery. After immediate surface water extn., the most practical storage condition for the target insecticides was storage on cartridges in the dark at -20 Deg, with no drying or solvent washing of the Carbopack B material. [on SciFinder (R)] 0021-9673 organophosphorus/ insecticide/ stability/ extn/ cartridge/ storage;/ graphitized/ carbon/ black/ extn/ cartridge/ insecticide/ storage;/ surface/ water/ insecticide/ detn/ gas/ chromatog

1100. Sabik, Hassan (1998). Graphitized carbon black cartridges for monitoring polar pesticides in large volumes of surface water. *International Journal of Environmental Analytical Chemistry* 72: 113-128.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1999:358317
Chemical Abstracts Number: CAN 131:23093
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Adsorbents; Pesticides; Surface waters (graphitized carbon black cartridges for monitoring polar pesticides in large vols. of surface water); Graphitized carbon black Role: ARU (Analytical role, unclassified), ANST (Analytical study) (graphitized carbon black cartridges for monitoring polar pesticides in large vols. of surface water); Extraction (solid-phase; graphitized carbon black cartridges for monitoring polar pesticides in large vols. of surface water using)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (graphitized carbon black cartridges for monitoring polar pesticides in large vols. of surface water); 86-50-0 (Azinphos-methyl); 101-05-3 (Anilazine); 121-75-5 (Malathion); 122-34-9 (Simazine); 139-40-2 (Propazine); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 834-12-8 (Ametryn); 944-22-9 (Fonofos); 1007-28-9 (Desisopropyl atrazine); 1912-24-9 (Atrazine); 2104-64-5 (EPN); 2642-71-9 (Azinphos-ethyl); 6190-65-4 (Desethyl atrazine); 7287-19-6 (Prometryn); 21087-64-9 (Metribuzin); 21725-46-2; 51218-45-2 (Metolachlor) Role: ANT (Analyte), ANST (Analytical study) (graphitized carbon black cartridges for monitoring polar pesticides in large vols. of surface water)
Citations: 1) Rondeau, B; Pesticides dans les tributaires du fleuve Saint Laurent 1989-1991 1996, ST-62
Citations: 2) Pham, T; Sci Total Envir 1996, 179, 17
Citations: 3) Lemieux, C; Wat Res 1995, 29, 1491
Citations: 4) APHA-AWWA-WEF; Standard Methods for the Examination of Water and Wastewater, 17th ed 1992
Citations: 5) US Environmental Protection Agency; Test Methods for Evaluating Solid Waste, SW-846 1986
Citations: 6) Sabik, H; Analusis 1997, 25, 267
Citations: 7) Nash, R; J Assoc Of Anal Chem 1990, 73, 438
Citations: 8) Di Corcia, A; Anal Chem 1991, 63, 580
Citations: 9) Di Corcia, A; Anal Chem 1993, 65, 907
Citations: 10) Fernandez, M; J Agric Food Chem 1996, 44, 1790
Citations: 11) Molto, J; J Chromatogr 1991, 555, 137
Citations: 12) Albanis, T; J Chromatogr A 1995, 707, 283
Citations: 13) Choudhary, T; Environ Sci Technol 1996, 30, 3259
Citations: 14) Boyd-Boland, A; Analyst 1996, 121, 929
Citations: 15) Ellis, G; Environ Toxicol Chem 1995, 14, 1875
Citations: 16) Huckins, J; Environ Sci Technol 1993, 27, 2489
Citations: 17) Cossa, D; Working Document DT-5 1996

Citations: 18) Cossa, D; Working Document ST-163 1998
Citations: 19) Gorse, I; Bilan des ventes de pesticides au Quebec en 1992 1995
Citations: 20) Hunter, C; Survey of pesticide use in Ontario, 1993: estimates of pesticides used on field crops, fruit and vegetable crops, provincial highway roadsides, and by licensed pesticide applicators 1994
Citations: 21) Stevens, R; J Great Lakes Res 1989, 15, 377
Citations: 22) Neilson, M; WQB/OR Technical Bulletin 157 1988
Citations: 23) Wauchope, R; Rev Environ Contam Toxicol 1992, 123, 1
Citations: 24) Haider, K; Intern J Environ Anal Chem 1993, 53, 125
Citations: 25) Glaser, J; Environ Sci Technol 1981, 15, 1426
Citations: 26) Lartiges, S; Environ Sci Technol 1995, 29, 1246
Citations: 27) Freed, V; J Agric Food Chem 1979, 27, 706
Citations: 28) Johnson, W; Anal Chem 1991, 63, 1510 A method was developed to analyze 20 polar pesticides-9 organophosphorus, 9 organonitrogens, and 2 degrdn. products of atrazine-simazine and propazine-in large vols. of surface water (1-20 L). During a recent study, the majority of these chems. ($2 < \text{Log Koc} < 4$) were found in the dissolved phase. For the new extn. method for pesticides in the dissolved phase, a fiber glass filter with 0.7 mm porosity was used. Samples of filtered surface water were extd. by a solid-phase technique, using cartridges filled with 500 mg of Carbopack B (60/80 mesh) graphitized carbon black as adsorbent. The pesticides were monitored by GC on 2 DB-5 and DB-210 capillary columns with a N-P detector (GC-NPD). With the exception of metribuzin, phosmet, and anilazine, percent recoveries were high (70-100%) for all pesticides in a vol. of 17.85 L of Milli-Q water compared to percent recoveries in the same vol. of filtered surface water (51-93%). Detection limits ranged from 0.1-4 ng/L. [on SciFinder (R)] 0306-7319 graphitized/ carbon/ black/ adsorbent/ pesticide/ water/ extn

1101. Sabik, Hassan and Jeannot, Roger (1998). Graphitized carbon black cartridges for monitoring polar pesticides in large volumes of surface water using GC-NPD and LC-MS techniques. 201-207.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:558767
Chemical Abstracts Number: CAN 133:198203
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Conference
Coden: 69AGQ3
Language: written in English.
Index Terms: Pesticides; Preconcentration; Surface waters (graphitized carbon black cartridges for monitoring polar pesticides in large vols. of surface water using GC-NPD and LC-MS techniques); Graphitized carbon black Role: ARU (Analytical role, unclassified), PEP (Physical, engineering or chemical process), ANST (Analytical study), PROC (Process) (graphitized carbon black cartridges for monitoring polar pesticides in large vols. of surface water using GC-NPD and LC-MS techniques); Extraction (solid-phase; graphitized carbon black cartridges for monitoring polar pesticides in large vols. of surface water using GC-NPD and LC-MS techniques)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (graphitized carbon black cartridges for monitoring polar pesticides in large vols. of surface water using GC-NPD and LC-MS techniques); 86-50-0 (Azinphos-methyl); 101-05-3 (Anilazine); 121-75-5 (Malathion); 122-34-9 (Simazine); 139-40-2 (Propazine); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 834-12-8 (Ametryn); 944-22-9 (Fonofos); 1007-28-9 (DIA); 1912-24-9 (Atrazine); 2104-64-5 (EPN); 2642-71-9 (Azinphos-ethyl); 6190-65-4 (DEA); 7287-19-6 (Prometryn); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 51218-45-2 (Metolachlor) Role: ANT (Analyte), ANST (Analytical study) (graphitized carbon black cartridges for monitoring polar pesticides in large vols. of surface water using GC-NPD and LC-MS techniques)

Citations: 1) Rondeau, B; Pesticides dans les tributaires du fleuve Saint-Laurent 1989-1991 1996, ST-62, 58
Citations: 2) Pham, T; Sci Total Envir 1996, 179, 17
Citations: 3) Lemieux, C; Wat Res 1995, 29, 1491
Citations: 4) Greenberg, A; Standard Methods for the Examination of Water and Wastewater, 17th ed 1992
Citations: 5) U S Environmental Protection Agency; Test Methods for Evaluating Solid Waste 1986, SW-846
Citations: 6) Sabik, H; Analusis 1997, 25, 267
Citations: 7) Cossa, D; Principes et pratiques d'echantillonnage d'eaux naturelles en vue du dosage de substances et d'elements presents a l'etat de traces et ultra-traces 1996, 28
Citations: 8) Di Corcia, A; Anal Chem 1991, 63, 580
Citations: 9) Haider, K; Int J Environ Anal Chem 1993, 53, 125 Method was developed to analyze 20 polar pesticides (9 organophosphorus, 9 organonitrogens, and 2 degrdn. products of atrazine-simazine and propazine) in large vols. of surface water (1-20 L). During a recent study conducted at the St. Lawrence Center of Environment Canada, the majority of these chems. (2 < log Koc < 4) were found in the dissolved phase. This paper presents a new extn. method for pesticides in the dissolved phase, using a fiber glass filter with 0.7 mm porosity. Samples of filtered surface water (1-20 L) were extd. by a solid-phase technique, using cartridges filled with 500 mg of Carbopack B (60/80 mesh) graphitized carbon black as adsorbent. The pesticides were monitored by gas chromatog. on 2 DB-5 and DB-210 capillary columns with a nitrogen-phosphorus detector (GC-NPD) and by liq. chromatog. with a mass spectrometry detector (LC-MS). With the exception of metribuzin, phosmet, and anilazine, percent recoveries were high (70-100%) for all pesticides in a vol. of 17.85 L of Milli-Q water compared to percent recoveries in the same vol. of filtered surface water (51-93%). The detection limits ranged from 0.1-4 ng/L and 0.6-3 ng/L for GC-NPD and LC-MS techniques, resp. [on SciFinder (R)] pesticide/ preconcn/ solid/ phase/ extn/ water/ graphitized/ carbon/ black

1102. Sack, John S., Saper, Mark A., and Quiocho, Florante A. (1989). Periplasmic binding protein structure and function : Refined X-ray structures of the leucine/isoleucine/valine-binding protein and its complex with leucine. *Journal of Molecular Biology* 206: 171-191.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

The three-dimensional structure of the native unliganded form of the Leu/Ile/Val-binding protein (Mr = 36,700), an essential component of the high-affinity active transport system for the branched aliphatic amino acids in Escherichia coli, has been determined and further refined to a crystallographic R-factor of 0[middle dot]17 at 2[middle dot]4 A resolution. The entire structure consists of 2710 non-hydrogen atoms from the complete sequence of 344 residues and 121 ordered water molecules. Bond lengths and angle distances in the refined model have root-mean-square deviations from ideal values of 0[middle dot]05 A and 0[middle dot]10 A, respectively. The overall shape of the protein is a prolate ellipsoid with dimensions of 35 A x 40 A x 70 A. The protein consists of two distinct globular domains linked by three short peptide segments which, though widely separated in the sequence, are proximal in the tertiary structure and form the base of the deep cleft between the two domains. Although each domain is built from polypeptide segments located in both the amino (N) and the carboxy (C) terminal halves, both domains exhibit very similar supersecondary structures, consisting of a central [beta]-sheet of seven strands flanked on either side by two or three helices. The two domains are far apart from each other, leaving the cleft wide open by about 18 A. The cleft has a depth of about 15 A and a base of about 14 A x 16 A. Refining independently the structure of native Leu/Ile/Val-binding protein crystals soaked in a solution containing -leucine at 2.8 A resolution (R-factor = 0.15), we have been able to locate and characterize an initial, major portion of the substrate-binding site of the Leu/Ile/Val-binding protein. The binding of the -leucine substrate does not alter the native crystal structure, and the -leucine is lodged in a crevice on the wall of the N-domain, which is in the inter-domain cleft. The -leucine is held in place primarily by hydrogen-bonding of its [alpha]-ammonium and [alpha]-carboxylate groups with main-chain peptide units and hydroxyl side-chain groups; there are no salt-linkages. The charges on the leucine zwitterion are stabilized by hydrogen-bond dipoles. The side-chain of the -leucine substrate lies in a depression lined with non-polar residues, including Leu77, which confers specificity to the site by stacking with the side-chain of the leucine substrate. So far in our high-resolution crystallographic studies of several binding proteins (including those with specificities for -arabinose, -galactose, and sulfate), we have observed three structural forms that are related by flexible domains: an unliganded form with a wide open substrate-binding site cleft between the two domains, an "open" structure with the substrate bound to one domain, and a "closed" form with the substrate bound in the cleft and completely entrapped between the domains. The function of binding proteins in active transport is discussed in light of the existence of the various forms and the other common structural and ligand-binding features of these proteins. http://www.sciencedirect.com/science/article/B6WK7-4DN8X5H-PS/2/5918ceae42413249edb3c92becb11615

1103. Sagik, B. P., Sorber, C. A., Funderburg, S. W., and Moore, B. E. (Assessment of the Potential Health Risks Associated With the Injection of Residual Domestic Wastewater Sludges Into Soils. Final Report Ii. Laboratory Studies. *Govt reports announcements & index (gra&i), issue 15, 1980*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, VIRUS.

ABSTRACT: TD3: Movement of poliovirus 1, reovirus 3, and bacteriophage 0X174 was studied in nine different soils and two soils amended with sludge. Soils were sampled to a depth of 100 cm in three 33 cm profiles. These profiles were packed into acrylic cylinders, 10 cm in diameter and 33, 66, and 100 cm in length, according to the vertical distribution and bulk density of the soil as found in the field. Viruses were added to the columns in 100 ml of autoclaved secondarily treated wastewater. Columns then were flooded with 800 ml of autoclaved wastewater followed by 800 ml of distilled water for five cycles of wastewater/distilled water application. Column percolates were monitored for viral infectivity, specific conductance, pH, turbidity, and total organic carbon. Cation exchange capacity, percent organic carbon, pH, percent silt/clay, and specific surface area were determined for each soil studied. Recovery of all three virus types in soil column percolates followed a cyclical pattern with a peak of viral re
KEYWORDS: Waste water
KEYWORDS: Sewage treatment
KEYWORDS: Health risks

1104. Sagun, V. G. and Van Der Ham RWJM (2003). Pollen Morphology of the Flueggeinae (Euphorbiaceae, Phyllanthoideae). *GRANA, 42 (4) pp. 193-219, 2003*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0017-3134
Abstract: A total of 129 species from the subtribe Flueggeinae of the tribe Phyllantheae (Euphorbiaceae, Phyllanthoideae) were investigated using light and scanning electron microscopy, and 10 species using transmission electron microscopy, in order to evaluate the relationships between the eight constituent genera: Breynia, Flueggea, Glochidion, Margaritaria, Phyllanthus, Reverchonia, Richeriella, and Sauropus. Of these genera, Flueggea, Margaritaria and Richeriella share pollen with a prolate spheroidal meridional outline and a 3-colporate aperture system. Pollen of Reverchonia is also 3-colporate, but differs from that of the Flueggea alliance by its clearly prolate shape, tilioid ornamentation and absence of costae endopori. Breynia and Sauropus have 4-12 and 3-16-colporate pollen, respectively, with diploporate colpi. Two pollen types are recognised in Breynia, and four in Sauropus, one of which supports the recognition of Sect. Hemisauropus. Glochidion pollen is 3-6-colporate, and similar to that of Breynia in having reticulate sculpture with Y-shaped sexine structures, but it has monoporate colpi. Of the genus Phyllanthus, only species with pollen with diploporate colpi have been studied. Seven types are described. Diploporate Phyllanthus pollen can be distinguished from that of Breynia and Sauropus by its distinct colpus margins consisting of parallel muri. Colpal irregularities and endoaperture configurations in the subtribe are discussed, and pollen morphological trends are hypothesised. Placed in the successiform aperture series, the Flueggea alliance and Reverchonia form a basal group. Glochidion is considered intermediate, giving rise to the Breynia-Sauropus group. The

relationship with Phyllanthus remains unclear.
50 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Norway
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Subfile: Plant Science

1105. Saito, I., Yamada, S., Oshima, H., and Hayakawa, J. (1995). Multi Residue Method for Determination of Pesticides Using Luke Method Extraction, Gel Permeation Chromatography and Gas Chromatography. *Journal of pesticide science* 20: 109-118.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. We studied multi residue method of pesticides using Luke Method extraction, gel permeation chromatography (GPC) and dual column GC. A sample was extracted with acetone and filtered. Aliquot of the extracts was extracted with dichloromethane-petroleum ether (1:1) without evaporation of acetone. The extract was dehydrated, evaporated in vacuo, dissolved in dichloromethane-cyclohexane (1:1) and cleaned up by GPC using Bio Beads S-X3 and mobile phase dichloromethane-cyclohexane (l:l). The eluate fraction of pesticides was evaporated in vacuo and dissolved in acetone. The sample was determined with a dual column GC (column DB-1 and DB-1701, or DB-210 and DB-1) equipped with NPD and FPD. Silica gel column fractionation was effective for furthermore clean-up. Recoveries of 65 organic phosphate, carbamate and nitrogen containing pesticides from fortified tomato, lettuce and strawberry ranged 53-122%, except propamocarb, acephate, methamidophos and aldicarb. This multi residue m
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: PLANTS
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Agronomy-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Angiospermae

LANGUAGE: jpn

1106. Saito, Shoji, Tanoue, Akira, and Matsuo, Masatoshi (1992). Applicability of the i/o-characters to a quantitative description of bioconcentration of organic chemicals in fish. *Chemosphere* 24: 81-7.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Database: CAPLUS
Accession Number: AN 1992:189326
Chemical Abstracts Number: CAN 116:189326
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Surfactants (alkylbenzenesulfonate, partition of, bioconcn. in fish in relation to); Partition (of org. compds., between octanol/water, bioconcn. in fish in relation to); Fish (org. chems. bioconcn. in, partition in relation to); Fluorescent brighteners (partition of, bioconcn. in fish in relation to); Organic compounds Role: PRP (Properties) (partition of, bioconcn. in fish in relation to)
CAS Registry Numbers: 50-29-3; 56-23-5 (Carbon tetrachloride); 58-89-9 (Hexachlorocyclohexane); 67-66-3 (Chloroform); 67-72-1 (Hexachloroethane); 71-55-6 (1,1,1-Trichloroethane); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-55-9; 76-01-7 (Pentachloroethane); 76-44-8 (Heptachlor); 78-59-1 (Isophorone); 79-01-6 (1,1,2-Trichloroethylene); 79-34-5 (1,1,2,2-Tetrachloroethane); 83-32-9 (Acenaphthene); 84-66-2 (Diethyl phthalate); 85-01-8 (Phenanthrene); 85-68-7 (Butylbenzyl phthalate); 86-73-7 (Fluorene); 87-61-6 (1,2,3-Trichlorobenzene); 87-68-3 (Hexachloro-1,3-butadiene); 87-86-5 (Pentachlorophenol); 90-12-0 (1-Methylnaphthalene); 91-20-3 (Naphthalene); 91-57-6 (2-Methylnaphthalene); 92-52-4 (Biphenyl); 95-50-1 (1,2-Dichlorobenzene); 95-57-8 (2-Chlorophenol); 95-95-4 (2,4,5-Trichlorophenol); 98-95-3 (Nitrobenzene); 100-02-7 (p-Nitrophenol); 101-84-8 (Diphenyl ether); 105-67-9 (2,4-Dimethylphenol); 106-46-7 (1,4-Dichlorobenzene); 107-06-2 (1,2-Dichloroethane); 108-70-3 (1,3,5-Trichlorobenzene); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 111-44-4 (Bis(2-chloroethyl)ether); 117-81-7 (2-Ethylhexyl phthalate); 118-74-1 (Hexachlorobenzene); 120-82-1 (1,2,4-Trichlorobenzene); 122-39-4 (Diphenylamine); 127-18-4; 131-11-3 (Dimethyl phthalate); 132-64-9 (Dibenzofuran); 135-88-6 (N-Phenyl-2-naphthylamine); 260-94-6 (Acridine); 333-41-5 (Diazinon); 541-73-1 (1,3-Dichlorobenzene); 607-99-8 (2,4,6-Tribromoanisole); 608-93-5 (Pentachlorobenzene); 634-66-2 (1,2,3,4-Tetrachlorobenzene); 634-90-2 (1,2,3,5-Tetrachlorobenzene); 732-11-6 (Imidan); 789-02-6; 1024-57-3 (Heptachlor epoxide); 1330-78-5 (Tricresyl phosphate); 1912-24-9 (Atrazine); 2385-85-5 (Mirex); 2531-84-2 (2-Methylphenanthrene); 2921-88-2 (Chloropyrifos); 3389-71-7; 3933-94-6; 8001-35-2 (Toxaphene); 10075-50-0 (5-Bromoindole); 11096-82-5 (Aroclor 1260); 11097-69-1 (Aroclor 1254); 12672-29-6 (Aroclor 1248); 12674-11-2 (Aroclor 1016); 12789-03-6 (Chlordane); 24423-11-8 (2-Chlorophenanthrene); 25637-99-4 (Hexabromocyclododecane); 28680-45-7; 29082-74-4 (Octachlorostyrene); 36355-01-8 (Hexabromobiphenyl); 36966-84-4; 56776-27-3 (NTS-1); 56776-28-4 (BSB); 56776-29-5 (DASC-4); 56776-30-8 (DASC-3); 116184-17-9 Role: PRP (Properties) (partition of, bioconcn. in fish in relation to) The bioconcn. factors (BCF's) of various types of org. chems. in several fish species reported by Veith and Kosian were utilized to verify the applicability of ei and eo to describe their bioconcn. potentials quant. A good linear correlation between log BCF and ei and eo was established over the 107 chems. by a multiple regression: log BCF = -0.00458.ei + 0.00991.eo (n = 107, r2 = 0.936, s = 0.735). The results suggest that ei and eo can be a good predictor of bioconcn. of org. chems. in fish and broaden its applicability in this particular field. [on SciFinder (R)] 0045-6535 org/ chem/ partition/ bioconcn/ fish

1107. Saito, Yukio, Kodama, Shuji, Matsunaga, Akinobu, and Yamamoto, Atsushi (2004). Multiresidue determination of pesticides in agricultural products by gas chromatography/mass spectrometry with large volume injection. *Journal of AOAC International* 87: 1356-1367.

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2004:1121723
Chemical Abstracts Number: CAN 142:92446
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Oryza sativa (brown rice; multiresidue detn. of pesticides in food by GC-MS with large vol. injection); Mass spectrometry (gas chromatog. combined with; multiresidue detn. of pesticides in food by GC-MS with large vol. injection); Gas chromatography (mass spectrometry combined with; multiresidue detn. of pesticides in food by GC-MS with large vol. injection); Food analysis; Food contamination; Injectors; Lycopersicon esculentum; Pyrus pyrifolia; Spinacia oleracea; Vitis vinifera (multiresidue detn. of pesticides in food by GC-MS with large vol. injection); Evaporation; Pesticides (multiresidue detn. of pesticides in food by GC-MS with large vol. injection and temp. vaporization)
CAS Registry Numbers: 50-29-3; 56-38-2 (Parathion); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 101-21-3 (Chlorpropham); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 298-00-0 (Parathion-methyl); 309-00-2 (Aldrin); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 732-11-6 (Phosmet); 789-02-6; 950-37-8 (Methidathion); 1024-57-3 (Heptachlor epoxide); 1582-09-8 (Trifluralin); 1897-45-6 (Chlorothalonil); 2104-64-5 (EPN); 2164-08-1 (Lenacil); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2597-03-7 (Phenthoate); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 13194-48-4 (Ethoprophos); 13593-03-8 (Quinalphos); 15972-60-8 (Alachlor); 17109-49-8 (Edifenphos); 18181-80-1 (Bromopropylate); 18708-86-6 (E-Chlorfenvinphos); 18708-87-7 (Z-Chlorfenvinphos); 18854-01-8 (Isoxathion); 23184-66-9 (Butachlor); 25311-71-1 (Isofenphos); 27355-22-2 (Fthalide); 28249-77-6 (Thiobencarb); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 31120-85-1 (Isofenphos oxon); 32809-16-8 (Procymidone); 34643-46-4 (Prothiofos); 36335-67-8 (Butamifos); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41814-78-2 (Tricyclazole); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55814-41-0 (Mepronil); 57018-04-9 (Tolclofos-methyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 66841-25-6 (Tralomethrin); 67628-93-7 (Z-Dimethylvinphos); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 71363-52-5 (E-Dimethylvinphos); 73250-68-7 (Mefenacet); 76738-62-0 (Paclobutrazol); 79538-32-2 (Tefluthrin); 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 83227-22-9 (E-Pyrifenox); 83227-23-0 (Z-Pyrifenox); 85509-19-9 (Flusilazole); 85785-20-2 (Esprocarb); 87130-20-9 (Diethofencarb); 88671-89-0 (Myclobutanil); 89784-60-1 (Pyraclofos); 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 96491-05-3 (Thenylchlor); 98886-44-3 (Fosthiazate); 101007-06-1 (Acrinathrin); 107534-96-3 (Tebuconazole); 111872-58-3 (Halfenprox); 119168-77-3 (Tebufenpyrad); 119446-68-3 (Difenoconazole); 123572-88-3 (Furametpyr); 125306-83-4 (Cafenstrole); 131341-86-1 (Fludioxonil); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of pesticides in food by GC-MS with large vol. injection)
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Citations: 5) Fillion, J; J AOAC Int 2000, 83, 698
Citations: 6) Akiyama, Y; J Food Hyg Soc Jpn 1996, 37, 351
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Citations: 15) Nakamura, S; Analyst 2001, 126, 1658
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Citations: 18) Aguera, A; J Chromatogr A 2000, 889, 261
Citations: 19) Sheridan, R; J AOAC Int 1999, 82, 982
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Citations: 21) Biedermann, M; J Chromatogr A 1997, 764, 65
Citations: 22) Erney, D; J Chromatogr 1993, 638, 57
Citations: 23) Okumura, T; J Environ Chem 1995, 5, 575
Citations: 24) Committee on Analytical Method of Pesticide Residue; Food Sanit Res 1997, 47(5), 27
Citations: 25) Ministry of Health and Welfare; Notification No 25 of Environmental Health Bureau 1998
Citations: 26) Ministry of Health and Welfare; Notification No 59 of Environmental Health Bureau 1999
Citations: 27) Anastassiades, M; J AOAC Int 2003, 86, 412
Citations: 28) Committee on Analytical Method of Pesticide Residue; Food Sanit Res 1997, 47(6), 27
Citations: 29) Ministry of Health and Welfare; Notification No 95 of Environmental Health Bureau 1996 A method is described for the rapid detn. of pesticide residues in agricultural products. Pesticides were extd. from samples with acetonitrile. To remove pigments and fatty acids, an aliquot of the ext. was cleaned up by a mini-column that was packed both with graphitized carbon black and primary secondary amine. Anal. was performed by gas chromatog./mass spectrometry with programmable temp. vaporizer-based large vol. injection using a liner packed with phenylmethylsilicone chem. bonded silica. The method was evaluated for 114 pesticides by spiking into tomato, spinach, Japanese pear, grape, and brown rice at various concns. of each pesticide (0.02-0.4 mg/g). The method, which gave good recovery (>60%) for 108 pesticides, is characterized by high cleanup efficiency and short cleanup time, and is useful as a rapid screening anal. [on SciFinder (R)] 1060-3271 pesticide/ food/ analysis/ GCMS/ injector/ vaporization

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Chem Codes: EcoReference No.: 40063
Chemical of Concern: ETN,FNT,PSM Rejection Code: NON-ENGLISH.

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Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM APPLE PEACH RESIDUE TRANSFER PESTICIDES PROTECTIVE CLOTHING DERMAL EXPOSURE SIMULATED MODEL FOR AGRICULTURAL RESIDUE TRANSFER

MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: ECOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: CYBERNETICS
MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: SKIN
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS, MEDICINAL
MESH HEADINGS: HOMINIDAE
KEYWORDS: General Biology-Symposia
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-Biocybernetics (1972-)
KEYWORDS: Integumentary System-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Pest Control
KEYWORDS: Rosaceae
KEYWORDS: Hominidae
LANGUAGE: eng

1110. Sanchez-Bayo, F. (2006). Comparative Acute Toxicity of Organic Pollutants and Reference Values for Crustaceans. I. Branchiopoda, Copepoda and Ostracoda. *Environ.Pollut.* 139: 385-420.
Chem Codes: EcoReference No.: 88444
Chemical of Concern: CBL,MTPN,PSM,PRN,MLN,DZ,BPH,TBF Rejection Code: REVIEW.

1111. Sanchez-Bayo, Francisco (2006). Comparative acute toxicity of organic pollutants and reference values for crustaceans. I. Branchiopoda, Copepoda and Ostracoda. *Environmental Pollution (Amsterdam, Netherlands)* 139: 385-420.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

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Database: CAPLUS
Accession Number: AN 2005:1351434
Chemical Abstracts Number: CAN 144:186254
Section Code: 4-3
Section Title: Toxicology
CA Section Cross-References: 12, 61
Document Type: Journal
Language: written in English.
Index Terms: Toxicity (acute; comparative acute toxicity of org. pollutants and ref. values for crustaceans, Branchiopoda, Copepoda and Ostracoda); Polycyclic compounds Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (arom. hydrocarbons; comparative acute toxicity of org. pollutants and ref. values

for crustaceans, Branchiopoda, Copepoda and Ostracoda); Quaternary ammonium compounds Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (benzyldimethyltallow alkyl, chlorides; comparative acute toxicity of org. pollutants and ref. values for crustaceans, Branchiopoda, Copepoda and Ostracoda); Branchiopoda; Copepoda; Creosote; Fungicides; Herbicides; Insecticides; Ostracoda; Species differences; Water pollution (comparative acute toxicity of org. pollutants and ref. values for crustaceans, Branchiopoda, Copepoda and Ostracoda); Pyrethrins Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (comparative acute toxicity of org. pollutants and ref. values for crustaceans, Branchiopoda, Copepoda and Ostracoda); Organometallic compounds Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (comparative acute toxicity of org. pollutants and ref. values for crustaceans, Branchiopoda, Copepoda and Ostracoda); Crustacea (planktonic; comparative acute toxicity of org. pollutants and ref. values for crustaceans, Branchiopoda, Copepoda and Ostracoda); Aromatic hydrocarbons Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (polycyclic; comparative acute toxicity of org. pollutants and ref. values for crustaceans, Branchiopoda, Copepoda and Ostracoda)
CAS Registry Numbers: 50-00-0 (Formalin); 50-29-3 (DDT); 50-32-8 (Benzo[a]pyrene); 51-28-5 (2,4-Dinitrophenol); 52-68-6; 53-70-3 (Dibenzo[a,h]anthracene); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 55-63-0 (Nitroglycerine); 56-23-5 (Tetrachloromethane); 56-38-2 (Parathion); 56-55-3 (Benzo[a]anthracene); 56-72-4 (Coumaphos); 57-12-5 (Cyanide); 57-13-6 (Urea); 57-55-6 (Propylene glycol); 58-89-9 (Lindane); 58-90-2 (2,3,4,6-Tetrachlorophenol); 59-50-7 (4-Chloro-3-methylphenol); 60-29-7 (1,1'-Oxybisethane); 60-35-5 (Acetamide); 60-57-1 (Dieldrin); 61-82-5 (Amitrole); 62-38-4 (Phenylmercury acetate); 62-53-3 (Benzenamine); 62-55-5 (Thioacetamide); 62-56-6 (Thiourea); 62-73-7 (Dichlorovos); 63-25-2 (Carbaryl); 64-17-5 (Ethanol); 65-85-0 (Benzoic acid); 67-56-1 (Methanol); 67-63-0 (2-Propanol); 67-64-1 (Acetone); 67-66-3 (Chloroform); 67-72-1 (Hexachloroethane); 68-12-2 (N,N-Dimethylformamide); 71-36-3 (1-Butanol); 71-43-2 (Benzene); 71-55-6 (1,1,1-Trichloroethane); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (DDD); 72-55-9; 72-56-0 (Perthane); 74-83-9 (Methyl bromide); 75-05-8 (Acetonitrile); 75-07-0 (Acetaldehyde); 75-09-2 (Dichloromethane); 75-15-0 (Carbon disulfide); 75-21-8 (Ethylene oxide); 75-25-2 (Bromoform); 75-35-4 (1,1-Dichloroethylene); 75-65-0 (2-Methyl-2-propanol); 75-74-1 (Tetramethyllead); 75-99-0 (Dalapon); 76-01-7; 76-06-2 (Chloropicrin); 76-44-8 (Heptachlor); 77-47-4 (1,2,3,4,5,5-Hexachloro-1,3-cyclopentadiene); 77-58-7; 78-00-2 (Tetraethyllead); 78-34-2 (Dioxathion); 78-48-8 (Tribufos); 78-59-1 (Isophorone); 78-83-1 (2-Methyl-1-propanol); 78-87-5 (1,2-Dichloropropane); 78-92-2 (2-Butanol); 78-93-3 (2-Butanone); 79-00-5 (1,1,2-Trichloroethane); 79-01-6 (Trichloroethylene); 79-06-1 (2-Propenamide); 79-10-7 (2-Propenoic acid); 79-11-8 (Chloroacetic acid); 79-34-5 (1,1,2,2-Tetrachloroethane); 80-05-7 (4,4'-(1-Methylethylidene)bisphenol); 80-62-6 (2-Methyl-2-propenoic acid methyl ester); 81-81-2 (Warfarin); 82-66-6 (Diphacinone); 82-68-8 (Quintozene); 83-32-9 (Acenaphthene); 83-79-4 (Rotenone); 84-66-2; 84-69-5; 84-74-2 (Dibutylphthalate); 84-75-3; 84-76-4 (Dinonyl phthalate); 85-00-7 (Diquat dibromide); 85-01-8 (Phenanthrene); 85-68-7; 85-69-8; 86-30-6; 86-50-0 (Azinphosmethyl); 86-74-8 (Carbazole); 87-61-6 (1,2,3-Trichlorobenzene); 87-65-0 (2,6-Dichlorophenol); 87-86-5 (Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 88-74-4 (2-Nitrobenzenamine); 88-75-5 (2-Nitrophenol); 88-85-7 (Dinoseb); 89-63-4 (4-Chloro-2-nitroaniline); 90-04-0; 90-12-0 (1-Methylnaphthalene); 90-15-3 (1-Naphthol); 91-20-3 (Naphthalene); 91-22-5 (Quinoline); 91-57-6 (2-Methylnaphthalene); 91-58-7 (2-Chloronaphthalene); 91-94-1; 92-52-4 (Biphenyl); 92-87-5 (Benzidine); 93-65-2 (Mecoprop); 93-72-1 (Fenoprop); 93-76-5 (2,4,5-T); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-82-6 (2,4-DB); 95-15-8 (Benzo[b]thiophene); 95-47-6 (1,2-Dimethylbenzene); 95-48-7 (2-Methylphenol); 95-50-1 (1,2-Dichlorobenzene); 95-53-4 (2-Methylbenzenamine); 95-57-8 (2-Chlorophenol); 95-63-6 (1,2,4-Trimethylbenzene); 95-80-7 (4-Methyl-1,3-benzenediamine); 95-94-3 (1,2,4,5-Tetrachlorobenzene); 95-95-4 (2,4,5-Trichlorophenol); 96-09-3 (Phenyloxirane); 96-18-4 (1,2,3-Trichloropropane); 96-23-1 (1,3-Dichloro-2-propanol); 96-45-7 (Ethylene thiourea); 98-82-8 (Cumene); 98-95-3 (Nitrobenzene); 99-09-2 (m-Nitroaniline); 99-30-9 (Dicloran); 99-55-8 (2-Methyl-5-nitrobenzenamine); 99-87-6 (1-Methyl-4-(1-methylethyl)benzene); 100-01-6 (4-Nitrobenzenamine); 100-02-7 (4-Nitrophenol); 100-41-4 (Ethylbenzene); 100-42-5 (Styrene); 100-44-7 ((Chloromethyl)benzene); 100-51-6 (Benzenemethanol); 101-21-3 (Chloropropham); 101-

55-3 (4-Bromophenyl phenyl ether); 101-84-8 (1,1'-Oxybisbenzene); 103-23-1; 103-33-3 (Azobenzene); 104-42-7 (4-Dodecylbenzenamine); 105-60-2 (Hexahydro-2H-azepin-2-one); 105-67-9 (2,4-Dimethylphenol); 106-42-3 (1,4-Dimethylbenzene); 106-44-5 (4-Methylphenol); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-89-8 ((Chloromethyl)oxirane); 106-93-4 (1,2-Dibromoethane); 107-02-8 (Acrolein); 107-05-1 (3-Chloro-1-propene); 107-06-2 (Ethylene dichloride); 107-13-1 (Acrylonitrile); 107-18-6 (2-Propen-1-ol); 107-21-1 (1,2-Ethanediol); 108-05-4 (Vinyl acetate); 108-10-1 (4-Methyl-2-pentanone); 108-31-6 (2,5-Furandione); 108-38-3 (1,3-Dimethylbenzene); 108-39-4 (3-Methylphenol); 108-42-9 (m-Chloroaniline); 108-46-3 (1,3-Benzenediol); 108-88-3 (Methylbenzene); 108-90-7 (Chlorobenzene); 108-95-2 (Phenol); 109-86-4 (2-Methoxyethanol); 110-54-3 (Hexane); 110-80-5 (2-Ethoxyethanol); 110-82-7 (Cyclohexane); 110-86-1 (Pyridine); 111-42-2 (2,2'-Iminobisethanol); 111-44-4 (Bis(2-chloroethyl) ether); 111-91-1; 112-34-5 (2-(2-Butoxyethoxy)ethanol); 112-36-7 (Diethylene glycol, Diethyl ether); 112-50-5 (Triethyl eneglycolmonoethyl ether); 112-60-7 (Tetraethylene glycol); 114-26-1 (Propoxur); 115-09-3 (Chloromethylmercury); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 117-80-6 (Dichlone); 117-81-7; 118-74-1 (Hexachlorobenzene); 118-79-6 (2,4,6-Tribromophenol); 119-06-2; 119-93-7; 120-12-7 (Anthracene); 120-36-5 (Dichloroprop); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-14-2 (2,4-Dinitrotoluene); 121-29-9; 121-69-7 (N,N-Dimethylbenzenamine); 121-73-3 (1-Chloro-3-nitrobenzene); 121-75-5 (Malathion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 122-66-7 (1,2-Diphenylhydrazine); 123-31-9 (Hydroquinone); 123-33-1 (Maleic hydrazide); 123-72-8 (Butanal); 123-91-1 (1,4-Dioxane); 124-18-5 (Decane); 124-65-2; 126-73-8 (Tributyl phosphate); 127-18-4 (Tetrachloroethylene); 129-00-0 (Pyrene); 131-11-3; 131-17-9 (Phthalic acid diallyl ester); 132-64-9 (Dibenzofuran); 132-65-0 (Dibenzothiophene); 132-66-1 (Naptalam); 133-06-2 (Captan); 133-07-3 (Folpet); 137-26-8 (Thiram); 137-30-4 (Ziram); 137-42-8 (Metam sodium); 139-13-9 (Nitrilotriacetic acid); 139-40-2 (Propazine); 140-57-8 (Aramite); 140-88-5 (Ethyl acrylate); 141-66-2 (Dicrotophos); 142-28-9 (1,3-Dichloropropane); 143-50-0; 151-21-3 (Sodium lauryl sulfate); 151-56-4 (Aziridine); 156-60-5 (trans-1,2-Dichloroethylene); 205-99-2 (Benz[e]acephenanthrylene); 206-44-0 (Fluoranthene); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-04-2 (Lead acetate); 302-01-2 (Hydrazine); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 319-84-6 (a-BHC); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6; 475-20-7 ((+)-Longifolene); 510-15-6 (Chlorobenzilate); 534-52-1 (DNOC); 541-73-1 (1,3-Dichlorobenzene); 542-75-6 (1,3-Dichloropropene); 556-61-6 (Isothiocyanatomethane); 563-12-2 (Ethion); 569-64-2 (Malachite green chloride); 581-42-0 (2,6-Dimethylnaphthalene); 606-20-2 (2,6-Dinitrotoluene); 608-73-1; 608-93-5 (Pentachlorobenzene); 613-12-7 (2-Methylanthracene); 629-97-0 (n-Docosane); 630-20-6 (1,1,1,2-Tetrachloroethane); 634-66-2 (1,2,3,4-Tetrachlorobenzene); 634-90-2 (1,2,3,5-Tetrachlorobenzene); 680-31-9 (Hexamethylphosphoramide); 683-18-1 (Dibutyldichlorotin); 685-63-2; 688-73-3D (Tributyltin); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 759-94-4 (EPTC); 786-19-6 (Carbofenothion); 834-12-8 (Ametryn); 933-75-5 (2,3,6-Trichlorophenol); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamide); 959-98-8 (a-Endosulfan); 1014-70-6 (Simetryn); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1071-83-6 (Glyphosate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1330-20-7 (Xylene); 1330-69-4; 1461-22-9 (Tributyltin chloride); 1461-25-2 (Tetrabutyltin); 1464-42-2 (Seleno-DL-methionine); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1634-04-4 (2-Methoxy-2-methylpropane); 1646-87-3 (2-Methyl-2-(methylsulfinyl)propionaldehyde, O-(methylcarbamoyl)oxime); 1646-88-4 (Aldoxycarb); 1689-84-5 (Bromoxynil); 1825-21-4 (Pentachloroanisole); 1836-75-5 (Nitrofen); 1861-32-1 (Chlorthal-dimethyl); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1910-42-5 (Paraquat dichloride); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 2008-41-5 (Butylate); 2032-65-7 (Methiocarb); 2050-68-2 (4,4'-Dichlorobiphenyl); 2051-60-7 (2-Chlorobiphenyl); 2051-61-8 (3-Chlorobiphenyl); 2051-62-9 (4-Chloro-1,1'-biphenyl); 2104-64-5 (EPN); 2164-17-2 (Fluometuron); 2227-17-0 (Dienochlor); 2245-38-7 (2,3,5-Trimethylnaphthalene); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2437-79-8; 2439-01-2 (Chinomethionat); 2439-10-3 (Dodine); 2475-18-5; 2593-15-9 (Etridiazole); 2642-71-9 (Azinphosethyl); 2897-21-4 (Seleno-DL-cystine); 2921-88-2

(Chloropyrifos); 3055-97-8 (Heptaethylene glycol dodecyl ether); 3090-36-6; 3209-22-1 (1,2-Dichloro-3-nitrobenzene); 3383-96-8 (Temephos); 3547-04-4 (1,1-Bis(p-chlorophenyl)ethane); 3648-20-2; 3689-24-5 (Sulfotep); 3691-35-8 (Chlorophacinone); 4170-30-3 (2-Butenal); 5234-68-4 (Carboxin); 5902-51-2 (Terbacil); 6221-88-1 ((Dodecyloxy)trimethylsilane); 6923-22-4 (Monocrotophos); 7012-37-5 (2,4,4'-Trichloro-1,1'-biphenyl); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 8018-01-7 (Mancozeb); 8065-48-3 (Demeton); 9002-92-0; 9004-82-4; 9006-42-2 (Metiram); 9016-45-9 (Ethoxylated nonylphenol); 10265-92-6 (Methamidophos); 10453-86-8 (Resmethrin); 11096-82-5 (Aroclor 1260); 11097-69-1 (Aroclor 1254); 11100-14-4 (Aroclor 1268); 11104-28-2 (Aroclor 1221); 11141-16-5 (Aroclor 1232); 12122-67-7 (Zineb); 12427-38-2 (Maneb); 12672-29-6 (Aroclor 1248); 12789-03-6 (Chlordane); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13356-08-6 (Fenbutatin oxide); 13463-41-7 (Zinc pyrithione); 13590-97-1; 14324-55-1 (Zinc diethyl dithiocarbamate); 14484-64-1 (Ferbam); 15299-99-7 (Napropamide); 15862-07-4 (2,4,5-Trichloro-1,1'-biphenyl); 15972-60-8 (Alachlor); 16672-87-0 (Ethephon); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18259-05-7 (2,3,4,5,6-Pentachloro-1,1'-biphenyl); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazon); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22248-79-9; 22259-30-9 (Formetanate); 22781-23-3 (Bendiocarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 23950-58-5 (Propyzamide); 25057-89-0 (Bentazone); 25155-30-0 (Dodecylbenzenesulfonic acid sodium salt); 25311-71-1 (Isofenphos); 26264-06-2 (Dodecylbenzenesulfonic acid calcium salt); 26644-46-2 (Triforine); 26761-40-0; 27176-87-0; 27314-13-2 (Norflurazon); 27554-26-3; 28300-74-5; 28519-02-0 (Dodecyl(sulfophenoxy)benzenesulfonic acid disodium salt); 28553-12-0; 28772-56-7 (Bromadiolone); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 32598-13-3; 33820-53-0 (Isopropalin); 35065-27-1 (2,2',4,4',5,5'-Hexachloro-1,1'-biphenyl); 35367-38-5 (Diflubenzuron); 35693-99-3 (2,2',5,5'-Tetrachloro-1,1'-biphenyl); 35694-08-7 (2,2',3,3',4,4',5,5'-Octachloro-1,1'-biphenyl); 36734-19-7 (Iprodione); 37324-23-5 (Aroclor 1262); 37680-65-2 (2,2',5-Trichloro-1,1'-biphenyl); 37680-73-2 (2,2',4,5,5'-Pentachloro-1,1'-biphenyl); 38380-07-3 (2,2',3,3',4,4'-Hexachloro-1,1'-biphenyl); 38641-94-0; 39300-45-3 (Dinocap); 39765-80-5 (trans-Nonachlor); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51338-27-3 (Diclofop-methyl); 51630-58-1 (Fenvalerate); 51901-33-8 (Ethylene glycol acetate); 52645-53-1 (Permethrin); 52663-71-5; 53469-21-9 (Aroclor 1242); 55283-68-6 (Ethalfluralin); 55335-06-3 (Triclopyr); 56073-10-0 (Brodifacoum); 57837-19-1 (Metalaxyl); 58138-08-2 (Tridiphane); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 66230-04-4 (Esfenvalerate); 69806-50-4 (Fluazifop-butyl); 71751-41-2 (Abamectin); 74051-80-2 (Sethoxydim); 74222-97-2 (Sulfometuron-methyl); 76578-14-8 (Quizalofop-ethyl); 81335-37-7 (Imazaquin); 81777-89-1 (Clomazone); 88671-89-0 (Myclobutanil); 90982-32-4 (Chlorimuron-ethyl); 111988-49-9 (Thiacloprid); 122453-73-0 (Chlorfenapyr); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 153719-23-4 (Thiamethoxam); 155569-91-8 (Emamectin benzoate); 168316-95-8 (Spinosad) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (comparative acute toxicity of org. pollutants and ref. values for crustaceans, Branchiopoda, Copepoda and Ostracoda); 92-52-4D (Biphenyl) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (comparative acute toxicity of org. pollutants and ref. values for crustaceans, Branchiopoda, Copepoda and Ostracoda)

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Citations: Zar, J; Biostatistical Analysis 1998 The acute toxicity of 468 org. pollutants to planktonic crustaceans (Branchiopoda, Copepoda and Ostracoda) from pre-existing data was compared by means of statistical anal. and relative tolerance indexes (Trel). A surrogate species commonly used in toxicity bioassays (Daphnia magna) showed toxicity levels - within one order of magnitude - similar to all other Cladocera species, at least for 82% of the chems. studied. All neurotoxic insecticides except neonicotinoids, PCBs, organometallic compds. and PAHs are the most toxic substances to these organisms. Sensitivity levels among taxa were compared for individual chems. as well as groups of chems. with similar characteristics. While there are marked differences in sensitivity among taxa and particular groups of chems., no consistent trends were found for freshwater and saltwater species in relation to the latter groups. No correlation between LC50 and size of these organisms was found other than by chance, making extrapolations based on allometric equations impossible. A ref. guide for the effects of chems. on crustaceans. [on SciFinder (R)] 0269-7491 toxicity/ org/ pollutant/ planktonic/ crustacea/ Branchiopoda/ Copepoda/ Ostracoda

1112. Sanchez Camazano, M. and Sanchez Martin, M. J (1983). Factors influencing interactions of organophosphorus pesticides with montmorillonite. *Geoderma* 29: 107-18.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

Database: CAPLUS

Accession Number: AN 1983:156367
Chemical Abstracts Number: CAN 98:156367
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
CAS Registry Numbers: 60-51-5; 62-73-7; 86-50-0; 121-75-5; 122-14-5; 141-66-2; 297-97-2; 333-41-5; 732-11-6; 786-19-6; 953-17-3; 2921-88-2; 6923-22-4; 7700-17-6; 7786-34-7; 8022-00-2; 13171-21-6 Role: BIOL (Biological study) (interactions of, with montmorillonite, cations effect on); 1318-93-0 Role: PRP (Properties) (organophosphorus pesticides adsorption and interaction mechanisms with, factors affecting) A summary is made of the results obtained from the study of the adsorption and interaction mechanisms of a series of organophosphorus pesticides (phosphates, phosphorothiolates, phosphorothionates, and phosphorothiolothionates) with montmorillonite [1318-93-0], with the aim of establishing relationships between the chem. structure of these compds. and the adsorption and interaction mechanisms with this clay. Many of the organophosphorus pesticides studied are absorbed into the interlayer space of montmorillonite. The intercalation causes different degrees of expansion (different types of complexes) principally as a function of the chem. structure of the org. compd. The presence in the org. mols. of the P:O and P:S groups and the size and compn. (functional groups present) of the radicals are the 2 most important factors. Both the nature of interlayer cations and the previous hydration status of montmorillonite influence adsorption. In some cases the polarizing power of the interlayer cation is a conditioning factor of the degree of interlayer expansion, whereas in others the cation charge is responsible for this. Results of IR spectroscopy show that interaction is of the dipole ion type and that it depends on the presence of the P:O or P:S group in the mol. and also on the functional groups present in the side chains. These factors, together with the situation of these latter groups in the side chains, condition the arrangement adopted by the mols. of a pesticide in the interlayer space. [on SciFinder (R)] 0016-7061 montmorillonite/ organophosphorus/ pesticide/ interaction/ cation

1113. Sanchez Camazano, M. and Sanchez Martin, M. J (1980). Interaction of phosmet with montmorillonite. *Soil Science* 129: 115-18.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1980:210171
Chemical Abstracts Number: CAN 92:210171
Section Code: 5-13
Section Title: Agrochemicals
CA Section Cross-References: 19
Document Type: Journal
Language: written in English.
CAS Registry Numbers: 732-11-6 Role: BIOL (Biological study) (montmorillonite interaction with); 1318-93-0 Role: BIOL (Biological study) (phosmet interaction with) Phosmet (I) [732-11-6] interaction mechanism with montmorillonite [1318-93-0] was studied in an org. medium, using x-ray diffraction and IR spectroscopy. I forms definite and stable interlayer complexes with montmorillonite of 16.05-angstrom basal spacing. The expansion is not affected by the hydration status of the clay, the time of contact, or the concn. of the I soln. (>=5%). The nature of the interlayer cations affects the expansion. The shifts of the P:S and C:O stretching frequencies in the IR spectra, as a function of the interlayer cation and hydration status of the complexes, indicate that I mols. interact with the interlayer cations through both the O of the C:O group and the S of the P:S group. In the latter case, this interaction occurs directly or indirectly, according to the hydration status of the complex. According to these results and the dimensions of the I mol., the complex is a monolayer. The possible orientation of the org. mols. within the interlayer space is suggested. [on SciFinder (R)] 0038-075X phosmet/ montmorillonite/ interaction

1114. Sanchez Camazano, M. and Sanchez Martin, M. J (1983). Montmorillonite-catalyzed hydrolysis of phosmet. *Soil Science* 136: 89-93.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1983:571310
Chemical Abstracts Number: CAN 99:171310
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 19
Document Type: Journal
Language: written in English.
Index Terms: Hydrolysis (of phosmet, montmorillonite-catalyzed); Kinetics of hydrolysis (of phosmet, on montmorillonites); Clay minerals; Salts Role: BIOL (Biological study) (phosmet hydrolysis catalyzed by)
CAS Registry Numbers: 67034-67-7; 68136-58-3; 69402-28-4 Role: CAT (Catalyst use), USES (Uses) (catalysts, for hydrolysis of phosmet); 732-11-6 Role: RCT (Reactant), RACT (Reactant or reagent) (hydrolysis of, montmorillonite-catalyzed); 1318-93-0; 7447-39-4; 7786-30-3; 10043-52-4; 10361-37-2; 12173-47-6; 12174-06-0 Role: RCT (Reactant), RACT (Reactant or reagent) (phosmet hydrolysis catalyzed by) Factors that influence the catalytic hydrolysis of phosmet (I) [732-11-6] by montmorillonite [1318-93-0] and also the hydrolysis mechanism were studied. The catalytic activity of montmorillonite depends on the nature of the interlayer exchange cation and on the total or tetrahedral layer charge of the silicate; both factors condition the accessibility of the org. mol. to the exchangeable cation for the formation of interlayer complexes. The half-life of I in an aq. soln. at pH 6 is 500-fold greater in the system free of clay than in the presence of Ca-montmorillonite. The catalytic activity of the cations as montmorillonite exchangeable cations and as salts was compared. The process of hydrolysis in the presence of montmorillonite occurs in 2 stages, both of 1st-order kinetics, with different hydrolysis rates, the 1st stage having a high hydrolysis rate of short duration, and the 2nd having a slow and continuous one. The bidentate complex formed by I and the interlayer exchangeable cations, discussed in an earlier publication, must be the cause of hydrolysis. This interaction must enhance the electrophilic nature of the P atom, thus facilitating its nucleophilic attack by the OH- ion, producing P-S bond fission. [on SciFinder (R)] 0038-075X phosmet/ hydrolysis/ montmorillonite/ mechanism

1115. Sandra, Pat, Tienpont, Bart, and David, Frank (2003). Stir bar sorptive extraction (Twister) RTL-CGC-MS. A versatile method to monitor more than 400 pesticides in different matrices (water, beverages, fruits, vegetables, baby food). 338-354.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:884892
Chemical Abstracts Number: CAN 140:176649
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 17, 61
Document Type: Conference
Coden: 69ETBD
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; pesticides monitoring by stir bar sorptive extn. RTL-CGC-MS in water, beverages, fruits, vegetables, baby food); Food (infant; pesticides monitoring by stir bar sorptive extn. RTL-CGC-MS in water, beverages, fruits, vegetables, baby food); Gas chromatography (mass spectrometry combined with; pesticides monitoring by stir bar sorptive extn. RTL-CGC-MS in water, beverages, fruits, vegetables, baby

food); Beverages; Extraction; Food analysis; Fruit; Malus pumila; Pesticides; Vegetable; Vitis vinifera (pesticides monitoring by stir bar sorptive extn. RTL-CGC-MS in water, beverages, fruits, vegetables, baby food)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (anal.; pesticides monitoring by stir bar sorptive extn. RTL-CGC-MS in water, beverages, fruits, vegetables, baby food); 50-29-3; 51-03-6 (Piperonyl butoxide); 52-85-7 (Famphur); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 70-30-4 (Hexachlorophene); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 72-56-0 (Perthane); 76-44-8 (Heptachlor); 77-73-6 (Dicyclopentadiene); 78-34-2 (Dioxathion); 78-48-8 (Tribufos); 80-06-8 (Chlorfenethol); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 82-66-6 (Diphacinone); 82-68-8 (Pentachloronitrobenzene); 83-26-1 (Pindone); 84-16-2 (Hexestrol); 86-50-0 (Azinphos-methyl); 87-62-7 (2,6-Dimethylaniline); 87-82-1 (Hexabromobenzene); 87-86-5 (Pentachlorophenol); 88-85-7 (Dinoseb); 90-43-7 (o-Phenylphenol); 90-98-2 (4,4'-Dichlorobenzophenone); 91-53-2 (Ethoxyquin); 93-71-0 (Allidochlor); 93-72-1 (Fenoprop); 94-79-1 (2,4-D Sec-Butyl ester); 95-68-1 (2,4-Dimethylaniline); 95-76-1 (3,4-Dichloroaniline); 97-17-6 (Dichlofenthion); 97-23-4 (Dichlorophen); 99-30-9 (Dicloran); 99-99-0 (p-Nitrotoluene); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 101-27-9 (Barban); 103-17-3 (Chlorbenside); 103-33-3 (Azobenzene); 106-46-7 (p-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 108-42-9 (3-Chloroaniline); 114-26-1 (Propoxur); 115-31-1 (Isobornyl thiocyanoacetate); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 117-80-6 (Dichlone); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 119-61-9 (Benzophenone); 120-36-5 (Dichloroprop); 121-75-5; 121-75-5D; 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 126-75-0 (Demeton-S); 133-06-2 (Captan*); 133-07-3 (Folpet); 134-62-3 (N,N-Diethyl-m-toluamide); 136-25-4 (Erbon); 139-40-2 (Propazine); 143-50-0; 148-79-8 (Thiabendazole); 150-50-5 (Tributyl phosphorotrithioite); 297-78-9 (Isobenzan); 297-97-2 (Thionazin); 298-00-0 (Methylparathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 314-40-9 (Bromacil); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 327-98-0 (Trichloronate); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 362-05-0 (2-Hydroxyestradiol); 465-73-6 (Isodrin); 470-90-6 (Chlorfenvinphos); 485-31-4 (Binapacryl); 491-80-5 (5,7-Dihydroxy-4'-methoxyisoflavone); 500-28-7 (Chlorthion); 502-55-6; 510-15-6 (Chlorobenzilate); 527-20-8 (Pentachloroaniline); 534-52-1 (4,6-Dinitro-o-cresol); 563-12-2 (Ethion); 573-90-0 (N-Methyl-N-1-naphthylacetamide); 584-79-2 (Bioallethrin); 608-93-5 (Pentachlorobenzene); 626-43-7 (3,5-Dichloroaniline); 640-15-3 (Thiometon); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 789-02-6; 834-12-8 (Ametryn); 841-06-5 (Methoprotryne); 886-50-0; 944-22-9 (Fonofos); 957-51-7 (Diphenamide); 959-98-8 (a-Endosulfan); 973-21-7 (Dinobuton); 1014-69-3 (Desmetryn); 1014-70-6 (Simetryn); 1024-57-3 (Heptachlorepoxide); 1024-57-3D (Heptachlor exo-epoxide); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1086-02-8 (Pyridinitril); 1114-71-2 (Pebulate); 1129-41-5 (Metolcarb); 1134-23-2 (Cycloate); 1194-65-6 (2,6-Dichlorobenzonitrile); 1420-07-1 (Dinoterb); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1593-77-7D (Dodemorph); 1610-17-9 (Atraton); 1610-18-0 (Prometon); 1689-83-4 (Ioxynil); 1689-84-5 (Bromoxynil); 1689-99-2 (Bromoxynil octanoic acid ester); 1715-40-8 (Bromocyclen); 1746-81-2 (Monolinuron); 1825-21-4 (Pentachloroanisole); 1836-75-5 (Nitrofen); 1836-77-7 (Chlornitrofen); 1861-32-1 (Chlorthal-dimethyl); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1912-26-1 (Trietazine); 1918-00-9 (Dicamba); 1918-11-2 (Terbucarb); 1918-13-4 (Chlorthiamide); 1918-16-7 (Propachlor); 1918-18-9 (Swep); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2163-69-1 (Cycluron*); 2164-08-1 (Lenacil); 2164-09-2 (Chloranocryl); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2227-13-6 (Tetrasul); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2303-16-4D (Diallate); 2303-17-5 (Triallate); 2307-68-8 (Pentanochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-06-1 (Captafol*); 2439-01-2 (Chinomethionat); 2463-84-5 (Dicapthon); 2536-31-4 (Chlorflurecol methyl ester); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl);

2655-15-4 (2,3,5-Trimethacarb); 2675-77-6 (Chloroneb); 2686-99-9 (3,4,5-Trimethacarb); 2813-95-8 (Dinoseb acetate); 2921-88-2 (Chlorpyrifos); 2941-55-1 (Ethiolate); 3060-89-7 (Metobromuron); 3204-27-1 (Dinoterb acetate); 3244-90-4; 3369-52-6 (Endosulfan ether); 3383-96-8 (Temephos); 3424-82-6; 3478-94-2 (Piperalin); 3547-33-9 (2-(Octylthio)ethanol); 3689-24-5 (Sulfotep); 3761-41-9 (Fenthion sulfoxide); 3766-81-2 (Fenobucarb); 3868-61-9 (Endosulfan lactone); 3878-19-1 (Fuberidazole); 4147-51-7 (Dipropetryn); 4658-28-0 (Aziprotryne); 4726-14-1 (Nitralin); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5131-24-8 (Ditalimfos); 5598-13-0 (Chlorpyrifos-methyl); 5707-69-7 (Drazoxolon); 5836-10-2 (Chloropropylate); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6164-98-3 (Chlordimeform); 7286-69-3 (Sebuthylazine); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 7421-93-4 (Endrin aldehyde); 7696-12-0D (Tetramethrin); 7700-17-6 (Crotoxyphos); 10311-84-9 (Dialifos); 10453-86-8 (Resmethrin); 10540-29-1 (Tamoxifen); 10552-74-6 (Nitrothal-isopropyl); 12771-68-5 (Ancymidol); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 13684-56-5 (Desmedipham); 14255-88-0 (Fenazaflor); 14437-17-3 (Chlorfenprop-methyl); 15299-99-7 (Napropamide); 15310-01-7 (Benodanil); 15457-05-3 (Fluorodifen); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 17109-49-8 (Edifenphos); 18181-70-9 (Jodfenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazon); 21564-17-0 (TCMTB); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 21757-82-4 (Plifenate); 22212-55-1 (Benzoylprop ethyl); 22224-92-6 (Phenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 22936-75-0 (Dimethametryn); 22936-86-3 (Cyprazine); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos-ethyl); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24151-93-7 (Piperophos); 24691-76-7 (Pyracarbolid); 24691-80-3 (Fenfuram); 24934-91-6 (Chlormephos); 25006-32-0 (Leptophos oxon); 25057-89-0 (Bentazone); 25059-80-7 (Benazolin-ethyl); 25311-71-1 (Isofenphos); 25900-20-3; 26002-80-2D (Phenothrin); 26087-47-8 (Iprobenfos); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 27304-13-8 (Oxychlordane); 27314-13-2 (Norflurazon); 27605-76-1 (Probenazole); 28249-77-6 (Benthiocarb); 28434-00-6; 28434-01-7 (Bioresmethrin); 28730-17-8 (Methfuroxam); 29082-74-4 (Octachlorostyrene); 29091-05-2 (Dinitramine); 29185-21-5; 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 32809-16-8 (Procymidone); 33089-61-1 (Amitraz); 33213-65-9 (b-Endosulfan); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34123-59-6 (Isoproturon); 34256-82-1 (Acetochlor); 34643-46-4 (Prothiofos); 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 36335-67-8 (Butamifos); 36734-19-7 (Iprodione); 37764-25-3 (Dichlormid); 37893-02-0 (Flubenzimine); 38260-54-7 (Etrimfos); 38727-55-8 (Diethatyl ethyl); 39196-18-4 (Thiofanox); 39300-45-3 (Dinocap); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 40596-69-8D (Methoprene); 41198-08-7 (Profenofos); 41814-78-2 (Tricyclazole); 42509-80-8 (Isazophos); 42576-02-3 (Bifenox); 42588-37-4 (Kinoprene); 42609-73-4 (Methyldymron); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50512-35-1 (Isoprothiolane); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 51235-04-2 (Hexazinone); 51338-27-3 (Diclofop methyl); 51630-58-1D (Fenvalerate); 52315-07-8D (Cypermethrin); 52645-53-1D (Permethrin); 52756-22-6 (Flamprop-isopropyl); 52756-25-9 (Flamprop-methyl); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 53494-70-5 (Endrin ketone); 53780-34-0 (Mefluidide); 55179-31-2D (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55512-33-9 (Pyridate); 55814-41-0 (Mepronil); 57018-04-9 (Tolclofos-methyl); 57052-04-7 (Isomethiozin); 57369-32-1 (Pyroquilon); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58138-08-2 (Tridiphane); 59756-60-4 (Fluridone); 60168-88-9 (Fenarimol); 60207-31-0 (Azaconazole); 60207-90-1D (Propiconazole); 60207-93-4 (Etaconazole); 60238-56-4 (Chlorthiophos); 60568-05-0 (Furmecyclox); 61213-25-0D; 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 64529-56-2 (Tycor); 64700-56-7 (Triclopyr butoxyethyl); 65907-30-4 (Furathiocarb); 66230-04-4 (Esfenvalerate); 66246-88-6 (Penconazole); 66332-96-5 (Flutolanil); 67129-08-2 (Metazachlor); 67564-91-4 (Fenpropimorph); 67628-93-7 ((Z)-Dimethylvinphos); 67747-09-5 (Prochloraz); 68359-37-5D (Cyfluthrin); 68505-69-1 (Benfuresate); 69327-76-0 (Buprofezin); 70124-77-5D (Flucythrinate); 71561-11-0 (Pyrazoxyfen); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb);

73250-68-7 (Mefenacet); 74712-19-9 (Bromobutide); 74782-23-3 (Oxabetrinil); 75463-73-9 (Desbromo-bromobutide); 75736-33-3 (Dichlobutrazol); 76578-14-8 (Quizalofop-ethyl); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 79241-46-6; 79983-71-4 (Hexaconazole); 81406-37-3 (Fluroxypyr 1-methylheptyl ester); 81777-89-1 (Clomazone); 82558-50-7 (Isoxaben); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 83657-17-4 (Uniconazole-P); 83657-24-3 (Diniconazole); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 85785-20-2 (Esprocarb); 87130-20-9 (Diethofencarb); 88283-41-4D (Pyrifenox); 88671-89-0 (Myclobutanil); 88678-67-5 (Pyributicarb); 91465-08-6; 96489-71-3 (Pyridaben); 96491-05-3 (Thenylchlor); 97886-45-8 (Dithiopyr); 102851-06-9D (Tau-Fluvalinate); 107534-96-3 (Tebuconazole); 114369-43-6 (Fenbuconazole); 119446-68-3D (Difenoconazole); 133855-98-8 (Epoxiconazole) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides monitoring by stir bar sorptive extn. RTL-CGC-MS in water, beverages, fruits, vegetables, baby food)
Citations: 1) Baltussen, E; Anal Bioanal Chem 2002, 373, 3
Citations: 2) Pawliszyn, J; Solid Phase Microextraction. Theory and Applications 1997
Citations: 3) Baltussen, E; J Microcolumn Sep 1999, 11, 737
Citations: 4) Sandra, P; J Chromatogr A 2001, 928, 117
Citations: 5) Blumberg, L; Anal Chem 1998, 70, 3828
Citations: 6) Sandra, P; J Chromatogr A 2003, 1000, 299 The performance of stir bar sorptive extn. (SBSE) for enrichment of pesticides from different matrixes is discussed. Emphasis is on vegetables, fruits and baby food because this is much more challenging than enrichment from aq. samples. By applying a new thermal desorption unit (TDU) fully automated and unattended desorption of 98 stir bars is feasible, making SBSE very cost-effective. The presence of pesticide residues is elucidated with the retention time locked gas chromatog.-mass spectroscopy method (RTL-capillary GC-MS). With SBSE-RTL-CGC-MS operated in the scan mode, more than 300 pesticides can be monitored in vegetables, fruits and baby food and 400 in aq. samples such as water or beverages. The multi-residue method (MRM) described provides detectabilities complying with the max. residue levels (MRL) set by regulatory organizations for pesticides in different matrixes. [on SciFinder (R)] pesticide/ extn/ detn/ GC/ MS

1116. Sarikayalar, F. and Ecevit, I. Z. (1990). Organophosphorus Compounds Causing Poisoning in Patients an Admitted to the Hacettepe University Children's Hospital (Turkey). *Cocuk sagligi hastaliklari derg* 33: 289-296.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Of the 88 cases admitted to Hacettepe University Children's Hospital between 1973 and 1988, 86.2% had high toxicity from organophosphorous compounds having a low LD50 value. Only 13.6% of the patients were intoxicated by low toxic organophosphorus compounds. It is emphasized that all organophosphorus compounds apart from their toxic grade and LD50 value can cause intoxication.
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: EPIDEMIOLOGIC METHODS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Epidemiology-Miscellaneous
KEYWORDS: Pest Control

KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Hominidae
LANGUAGE: tur

1117. Sarwar AKMG and Takahashi, H. (2006). Pollen Morphology of Enkianthus (Ericaceae) and Its Taxonomic Significance. *Grana, 45 (3) pp. 161-174, 2006*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0017-3134
Descriptors: Enkianthus
Descriptors: Pollen morphology
Descriptors: Taxonomic significance
Abstract: Pollen morphology of ten Enkianthus species was examined using light (LM) and scanning electron microscopy (SEM) and previous infrageneric classification of Enkianthus was discussed in the light of the palynological characters obtained in this study. The pollen grains are monads, oblate spheroidal to prolate in shape and 3- to 5-colpor(oid)ate. Exine sculpture varies from granulate to coarsely rugulate-psilate with faint to distinct minute granules in SEM. Infraspecific geographical differences in palynological characters were found in E. deflexus. The species of Enkianthus are clearly differentiated into two pollen morphological groups that correspond to the sections Enkiantella + Meisteria and Andromedina + Enkianthus, respectively. The members of the sections Enkiantella and Meisteria have pollen grains typically with three apertures, prolate spheroidal to prolate, ratio of colpus length to polar axis (L/P) 0.69-0.84, relatively thinner exine and exine sculpturing tendency to granulate, character states that are probably plesiomorphic in this genus. The members of the sections Andromedina and Enkianthus have more derived pollen grains with four to five apertures, commonly oblate spheroidal, L/P 0.56-0.63, relatively thicker exine and exine sculpturing tendency to coarsely rugulate-psilate. It seems to be difficult to differentiate between sections of the same group on the basis of palynological characters only. Adding the palynological characters to the infrageneric framework of Anderberg indicates an evolutionary trend in exine sculpture within Enkianthus from finely verrucate-rugulate through coarsely rugulate to coarsely rugulate-psilate. A dichotomous key for Enkianthus was prepared based on the palynological characters. (copyright) 2006 Taylor & Francis.
30 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Norway
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.6.2 STRUCTURE: Microscopy
Subfile: Plant Science

1118. Sasaki, Kumiko, Suzuki, Takashi, and Saito, Yukio (1987). Simplified cleanup and gas chromatographic determination of organophosphorus pesticides in crops. *Journal - Association of Official Analytical Chemists* 70: 460-4.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1987:476239
Chemical Abstracts Number: CAN 107:76239
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5

Document Type: Journal
Language: written in English.
Index Terms: Insecticides (detn. of, in food, by gas chromatog.); Vegetable (organophosphorus pesticide detn. in, by gas chromatog.); Broccoli; Fruit; Lettuce; Mandarin orange; Onion; Spinach; Tomato (organophosphorus pesticides detn. in, by gas chromatog.); Capsicum annuum annuum (grossum group, organophosphorus pesticides detn. in, by gas chromatog.)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-04-4 (Disulfoton); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 3811-49-2 (Salithion); 5598-13-0 (Chlorpyrifos methyl); 13067-93-1 (Cyanofenphos); 17109-49-8 (Edifenphos); 21609-90-5 (Leptophos); 26087-47-8 (IBP); 34643-46-4 (Prothiophos) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in food, by gas chromatog.) A simple and efficient cleanup method for gas chromatog. detn. of 23 organophosphorus pesticides in crops including onion is described. The sample was extd. with acetone. The ext. was purified with coagulating soln., which contained ammonium chloride and phosphoric acid, and then filtered by suction. The filtrate was dild. with NaCl soln. and reextd. with benzene. The org. layer was evapd. and injected into a gas chromatograph equipped with a flame photometric detector (FPD) and fused silica capillary columns (0.53 mm) coated with silicone equiv. to OV-1701, OV-1, and SE-52. Onion ext., which contained FPD interferences, was cleaned up on a disposable silica cartridge. Recoveries of most organophosphorus pesticides from spiked crops: mandarin orange, tomato, spinach, sweet pepper, broccoli, lettuce, and onion at levels of 0.02-0.28 ppm, exceeded 80%, but the water-sol. pesticides dichlorvos and dimethoate gave poor recoveries in all crops; the nonpolar pesticides disulfoton, chlorpyrifos, fenthion, prothiophos, and leptophos were not recovered quant. in spinach, sweet pepper, broccoli, and lettuce. IBP, edifenphos, phosmet, and pyridaphenthion were not recovered from onion because of adsorption to the silica cartridge. The detection limits ranged from 1.25 to 17.5 ppb on a crop basis. [on SciFinder (R)] 0004-5756 organophosphorus/ pesticide/ detn/ food/ gas/ chromatog

1119. Saul, S. J., Zomer, E., Puolpolo, D., and Charm, S. E. (1996). Use of a New Rapid Bioluminescence Method for Screening Organophosphate and N-Methylcarbamate Insecticides in Processed Baby Foods. *Journal of food protection* 59: 306-311.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. An enzyme with high specific affinity for organophosphate and N-methylcarbamate insecticides has been incorporated into a new test for detection of these insecticides at the level of parts per billion (ppb) (commercially available as the Charm Pesticide Test). To measure the extent of insecticide inhibition of the enzyme, a specific bioluminescent substrate is used. The signal is counterproportional to the amount of insecticides. Random sampling of four baby food brands and testing for the cumulative levels of organophosphate and N-methylcarbamate insecticides found carbaryl to be the most common residue. Out of the 155 samples tested there were 132 negative samples (85.2%) and 23 suspected positive samples (14.2%). The suspected positive samples were further analyzed by high-performance liquid chromatography (RPLC) and gas chromatography/mass spectrometry (GC). Carbaryl was confirmed in 18 of the samples. One of the samples contained an active metabolite of tetrachlory
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD, FORMULATED

MESH HEADINGS: FOOD, FORTIFIED
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Food Technology-Preparation
KEYWORDS: Food Technology-Synthetic
KEYWORDS: Toxicology-Foods
KEYWORDS: Pest Control
LANGUAGE: eng

1120. Sawyer, T. W., Weiss, M. T., and Dickinson, T (1996). Effect of metabolism on the anticholinesterase activity of carbamate and organophosphate insecticides in neuron culture. *In Vitro Toxicology* 9: 343-352.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:83011
Chemical Abstracts Number: CAN 126:114420
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Embryo; Insecticides; Nerve; Toxicity (anticholinesterase activity of carbamate and organophosphate insecticides in neuron culture and toxicity)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Co-ral); 60-51-5 (Cygon); 63-25-2 (Carbaryl); 86-50-0 (Guthion); 114-26-1 (Baygon); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 141-66-2 (Bidrin); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Di-syston); 300-76-5 (Naled); 311-45-5 (Paraoxon); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Imidan); 944-22-9 (Dyfonate); 1563-66-2 (Carbofuran); 2310-17-0 (Zolone); 2921-88-2 (Dursban); 3383-96-8 (Abate); 10265-92-6 (Monitor); 13171-21-6 (Phosphamidon); 13194-48-4 (Mocap); 16752-77-5 (Methomyl); 22781-23-3 (Bendiocarb); 30560-19-1 (Acephate) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (anticholinesterase activity of carbamate and organophosphate insecticides in neuron culture and toxicity); 9000-81-1 (Acetylcholinesterase) Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study) (anticholinesterase activity of carbamate and organophosphate insecticides in neuron culture and toxicity) The anticholinesterase activities of 30 organophosphate and carbamate insecticides were assessed in primary cultures of chick embryo forebrain neurons. The median inhibitory concns. for these compds. ranged over several orders of magnitude. However, these values did not correlate with the literature reported in vivo rodent toxicities of the corresponding insecticides. Preincubation of an arbitrary selection of 18 of these insecticides with rat hepatic S-9 fractions altered their anticholinesterase activities so that they became predictive of their relative in vivo toxicities. This approach may be of utility in assessing the toxicity of these classes of compds. in vivo. [on SciFinder (R)] 0888-319X cholinesterase/ carbamate/ organophosphate/ insecticide/ neuron

1121. Saxton, Wilbur L (1987). Emergence temperature indexes and relative retention times of pesticides and industrial chemicals determined by linear programmed temperature gas chromatography. *Journal of Chromatography* 393: 175-94.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1987:568002
Chemical Abstracts Number: CAN 107:168002
Section Code: 80-4
Section Title: Organic Analytical Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (linear programmed temp. gas chromatog. of, on Me silicone columns, emergence temp. indexes and relative retention times for); Chromatography (linear programmed temp., of industrial chems. and pesticides on Me silicone columns, emergence temp. indexes and relative retention times for); Chemicals (industrial, linear programmed temp. gas chromatog. of, on Me silicone columns, emergence temp. indexes and relative retention times for)
CAS Registry Numbers: 51-28-5; 52-68-6; 83-32-9 (Acenaphthene); 84-66-2 (Diethyl phthalate); 86-73-7 (Fluorene); 90-15-3 (a-Naphthol); 90-43-7; 95-76-1 (3,4-Dichloroaniline); 100-02-7 (4-Nitrophenol); 114-26-1 (Propoxur); 117-18-0 (Tecnazene); 118-75-2 (Chloranil); 121-14-2 (2,4-Dinitrotoluene); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 131-11-3 (Dimethyl phthalate); 131-89-5 (Dinex); 208-96-8 (Acenaphthylene); 297-97-2 (Thionazin); 298-02-2D (Phorate); 298-03-3; 298-03-3D; 534-52-1 (DNOC); 606-20-2 (2,6-Dinitrotoluene); 608-93-5 (Pentachlorobenzene); 919-86-8; 962-58-3; 1113-02-6 (Omethoate); 1469-48-3 (cis-4-Cyclohexene-1,2-dicarboximide); 1596-84-5 (Daminozide); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 2212-67-1 (Molinate); 2436-73-9; 2593-15-9 (Etridiazole); 2675-77-6 (Chloroneb); 2694-06-6 (Methyl 2,3,6-trichlorobenzoate); 3389-71-7; 5598-15-2; 7786-34-7 (Mevinphos); 16655-82-6 (3-Hydroxycarbofuran); 18113-14-9; 21087-64-9D (Metribuzin); 23135-22-0 (Oxamyl); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 36378-61-7; 109949-18-0 Role: ANST (Analytical study) (linear programmed temp. gas chromatog. of, on Me silicone columns, emergence temp. index and relative retention time for); 50-29-3; 50-31-7 (2,3,6-TBA); 50-32-8 (3,4-Benzopyrene); 53-70-3; 54-11-5 (Nicotine); 58-08-2 (Caffeine); 59-50-7 (4-Chloro-3-methylphenol); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 67-72-1 (Hexachloroethane); 70-30-4 (Hexachlorophene); 72-54-8 (p,p'-TDE); 76-44-8 (Heptachlor); 77-47-4 (Hexachlorocyclopentadiene); 78-34-2 (Dioxathion); 78-59-1 (Isophorone); 80-06-8; 82-68-8 (Quintozene); 83-26-1 (Pival); 84-69-5 (Diisobutyl phthalate); 85-01-8 (Phenanthrene); 85-29-0 (o,p'-Dichlorobenzophenone); 85-70-1 (Butyl phthalylbutyl glycolate); 85-72-3 (Duraset 20w); 86-87-3 (Naphthaleneacetic acid); 87-61-6 (1,2,3-Trichlorobenzene); 87-68-3 (Hexachloro-1,3-Butadiene); 87-86-5 (Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 88-75-5 (2-Nitrophenol); 88-85-7 (Dinoseb); 91-20-3 (Naphthalene); 91-58-7 (b-Chloronaphthalene); 92-52-4 (Biphenyl); 93-71-0 (Allidochlor); 93-78-7 (2,4,5-T Isopropyl ester); 94-80-4; 94-81-5 (MCPB); 95-50-1 (o-Dichlorobenzene); 95-57-8 (o-Chlorophenol); 95-94-3 (1,2,4,5-Tetrachlorobenzene); 96-12-8 (Dibromochloropropane); 96-45-7 (Ethylene thiourea); 97-17-6 (Dichlofenthion); 98-95-3 (Nitrobenzene); 105-67-9 (2,4-Dimethylphenol); 106-46-7 (p-Dichlorobenzene); 107-49-3 (TEPP); 108-70-3 (1,3,5-Trichlorobenzene); 108-95-2 (Phenol); 111-44-4 (Bis(2-chloroethyl) ether); 111-91-1 (Bis(2-chloroethoxy)methane); 115-09-3 (Methyl mercuric chloride); 115-90-2 (Fensulfothion); 115-93-5 (Cythioate); 117-26-0 (Bulan); 117-27-1 (Prolan); 117-80-6 (Dichlone); 117-84-0 (Dioctyl phthalate); 120-12-7 (Anthracene); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 124-18-5 (n-Decane); 126-72-7 (Tris(2,3-dibromopropyl)phosphate); 127-18-4 (Tetrachloroethylene); 132-66-1 (Naptalam); 137-26-8 (Thiram); 139-40-2 (Propazine); 143-50-0 (Chlordecone); 152-16-9 (Schradan); 191-24-2; 205-99-2 (3,4-Benzofluoranthene); 298-00-0 (Parathion-methyl); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 299-84-3D (Ronnel); 301-12-2 (Oxydemeton-methyl); 311-45-5; 314-40-9 (Bromacil); 315-18-4 (Mexacarbate); 330-55-2 (Linuron); 333-41-5 (Diazinon); 485-31-4

(Binapacryl); 500-28-7 (Chlorthion); 510-15-6 (Chlorobenzilate); 513-92-8 (Tetraiodoethylene); 527-20-8 (Pentachloroaniline); 563-12-2 (Ethion); 629-97-0 (n-Docosane); 632-79-1 (Tetrabromo phthalic anhydride); 634-66-2 (1,2,3,4-Tetrachlorobenzene); 634-90-2 (1,2,3,5-Tetrachlorobenzene); 671-04-5 (Carbanolate); 709-98-8 (Propanil); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 789-02-6 (o,p'-DDT); 834-12-8 (Ametryn); 886-50-0 (Terbutryn); 944-22-9 (Fonofos); 950-35-6; 953-17-3 (Methyl trithion); 961-22-8; 1014-70-6 (Simetryn); 1031-07-8 (Endosulfan sulfate); 1079-33-0 (Mobam); 1085-98-9 (Dichlofluanid); 1194-65-6 (Dichlobenil); 1441-02-7 (Pentachlorophenol acetate); 1610-18-0 (Prometon); 1634-78-2; 1698-60-8 (Pyrazon); 1713-15-1 (2,4-D Isobutyl ester); 1825-19-0 (Pentachlorophenyl methyl sulfide); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-02-1 (Picloram); 1918-13-4 (Chlorthiamid); 1928-37-6 (2,4,5-T Methyl ester); 1928-43-4; 1966-58-1; 1982-47-4 (Chloroxuron); 2032-65-7 (Methiocarb); 2051-24-3 (Decachlorobiphenyl); 2164-09-2 (Dicryl); 2227-13-6 (Tetrasul); 2303-17-5 (Triallate); 2312-35-8 (Propargite); 2328-31-6; 2425-06-1 (Captafol); 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2588-06-9; 2636-26-2 (Cyanophos); 3060-89-7; 3383-96-8; 3734-48-3 (Chlordene); 3735-01-1 (Aminoparathion); 3735-33-9; 4726-14-1 (Nitralin); 4841-20-7 (Silvex methyl ester); 5103-73-1 (cis-Nonachlor); 5902-51-2 (Terbacil); 7286-84-2 (Chloramben methyl ester); 7287-19-6 (Prometryn); 7421-93-4 (Endrin aldehyde); 8001-35-2 (Toxaphene); 8001-50-1 (Strobane); 8027-00-7 (Dilan); 9002-91-9 (Metaldehyde); 10265-92-6; 10606-46-9; 11096-82-5 (Aroclor 1260); 11097-69-1 (Aroclor 1254); 11104-28-2; 12616-35-2 (Halowax 1013); 12616-36-3 (Halowax 1014); 12672-29-6 (Aroclor 1248); 12789-03-6; 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13356-08-6; 13684-56-5 (Desmedipham); 14484-64-1 (Ferbam); 14816-17-2; 15972-60-8 (Alachlor); 16662-87-6; 17040-19-6 (Oxydemeton-methyl sulfone); 17804-35-2 (Benomyl); 18530-56-8 (Norea); 18625-12-2; 20925-85-3 (Pentachlorobenzonitrile); 21087-64-9 (Metribuzin); 21087-64-9D (Metribuzin); 23103-98-2 (Pirimicarb); 23564-06-9 (Thiophanate); 23950-58-5 (Pronamide); 25333-40-8; 26225-79-6 (Ethofumesate); 26389-78-6 (Chlornidine); 26399-36-0 (Profluralin); 27314-13-2 (Norflurazon); 29232-93-7 (Pirimiphos-methyl); 30667-99-3 (o,p'-Methoxychlor); 33213-65-9 (Endosulfan II); 33245-39-5 (Fluchloralin); 35400-43-2 (Sulprofos); 36355-01-8 (Hexabromobiphenyl); 37324-23-5 (Aroclor 1262); 38129-26-9; 39450-05-0 (Halowax 1099); 42343-35-1 (Isooctyl isodecyl phthalate); 50471-44-8 (Vinclozolin); 51338-27-3 (Diclofop-methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52918-63-5; 53469-21-9; 53490-78-1; 53494-70-5 (Endrin ketone); 56534-02-2 (a-Chlordene); 57837-19-1 (Metalaxyl); 58718-67-5 (Halowax 1001); 60207-90-1 (Tilt); 61949-77-7 (trans-Permethrin); 62922-39-8; 70124-77-5 (Flucythrinate); 71850-09-4; 84777-88-8 (BH 584); 110069-98-2; 110069-99-3; 110070-00-3 Role: ANT (Analyte), PRP (Properties), ANST (Analytical study) (linear programmed temp. gas chromatog. of, on Me silicone columns, emergence temp. index and relative retention time for); 91-20-3D Role: ANST (Analytical study) (linear programmed temp. gas chromatog. of, on Me silicone columns, emergence temp. index and relative retention time for Halowax HX-1031); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 80-00-2 (Sulphenone); 84-74-2 (Dibutyl phthalate); 90-98-2 (p,p'-Dichlorobenzophenone); 92-84-2 (Phenothiazine); 93-79-8 (2,4,5-T Butyl ester); 101-05-3 (Anilazine); 112-95-8 (n-Eicosane); 113-48-4 (MGK 264); 115-32-2; 121-75-5 (Malathion); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8 (Thiabendazole); 297-78-9 (Isobenzan); 299-85-4 (Zytron); 299-86-5 (Crufomate); 309-00-2 (Aldrin); 465-73-6 (Isodrin); 470-90-6; 731-27-1; 954-21-2; 957-51-7 (Diphenamid); 1024-57-3 (Heptachlor epoxide); 1861-32-1; 2104-96-3 (Bromophos); 2496-91-5 (Demeton-S sulfone); 2496-92-6; 2597-03-7; 2597-11-7 (1-Hydroxychlordene); 2759-71-9 (Cypromid); 2921-88-2 (Chlorpyrifos); 5286-73-7; 21725-46-2 (Cyanazine); 23505-41-1 (Pirimiphos-ethyl); 25333-21-5; 26644-46-2 (Triforine); 27304-13-8 (Octachlor epoxide); 40487-42-1; 43121-43-3; 56534-03-3 (b-Chlordene); 56641-38-4 (g-Chlordene); 58718-66-4 (Halowax 1000); 109925-02-2 Role: ANST (Analytical study) (linear programmed temp. gas chromatog. of, on Me silicone columns, temp. index and relative retention time for); 51-03-6 (Piperonyl butoxide); 52-85-7 (Famphur); 56-55-3 (1,2-Benzanthracene); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-20-8 (Endrin); 72-43-5 (p,p'-Methoxychlor); 72-55-9 (p,p'-DDE); 72-56-0; 77-06-5 (Gibberellic acid); 78-48-8 (DEF); 80-33-1 (Ovex); 84-61-7 (Dicyclohexyl phthalate); 84-62-8 (Diphenyl phthalate); 86-30-6 (N-Nitrosodiphenylamine); 86-50-0 (Azinphos-methyl); 87-82-1 (Hexabromobenzene); 91-53-2 (Ethoxyquin); 91-94-1 (3,3'-Dichlorobenzidine); 93-65-2 (Mecoprop); 94-11-1 (2,4-D

Isopropyl ester); 94-82-6; 95-06-7 (Sulfallate); 97-16-5 (Genite); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 101-27-9 (Barban); 101-42-8 (Fenuron); 101-55-3 (4-Bromodiphenyl ether); 103-17-3 (Chlorbenside); 112-92-5 (1-Octadecanol); 116-29-0 (Tetradifon); 117-81-7 (Di-ethylhexyl phthalate); 117-83-9; 118-74-1 (Hexachlorobenzene); 122-66-7 (1,2-Diphenylhydrazine); 126-75-0 (Demeton-S); 129-00-0 (Pyrene); 131-18-0 (Dipentyl phthalate); 140-57-8 (Aramite); 141-66-2 (Dicrotophos); 150-50-5 (Merphos); 206-44-0 (Fluoranthene); 218-01-9 (Chrysene); 298-02-2 (Phorate); 300-76-5 (Naled); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 321-54-0; 544-76-3 (n-Hexadecane); 556-22-9; 584-79-2 (Allethrin); 605-45-8 (Diisopropyl phthalate); 630-01-3 (n-Hexacosane); 640-15-3 (Thiometon); 646-31-1 (n-Tetracosane); 741-58-2 (Bensulide); 867-27-6; 944-22-9D (Fonofos); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1022-22-6; 1134-23-2 (Cycloate); 1563-66-2 (Carbofuran); 1582-09-8; 1689-84-5; 1825-21-4; 1836-75-5 (Nitrofen); 1861-40-1 (Benfluralin); 1918-00-9 (Dicamba); 1928-38-7 (2,4-D Methyl ester); 2008-58-4 (2,6-Dichlorobenzamide); 2104-64-5 (EPN); 2164-17-2 (Fluometuron); 2234-13-1 (Halowax 1051); 2303-16-4 (Diallate); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2439-01-2 (Oxythioquinox); 2497-06-5 (Disulfoton sulfone); 2497-07-6 (Disulfoton sulfoxide); 2595-54-2; 2635-10-1 (Methiocarb sulfoxide); 2642-71-9 (Azinphos-ethyl); 2876-78-0 (1-Naphthalene acetic acid methyl ester); 3347-22-6 (Dithianon); 3424-82-6 (o,p'-DDE); 3689-24-5 (Sulfotep); 3811-49-2 (Salithion); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5234-68-4 (Carboxin); 5359-38-6 (DDA, p,p'-methyl ester); 6164-98-3 (Chlordimeform); 6923-22-4 (Monocrotophos); 7332-32-3; 7700-17-6 (Crotoxyphos); 8022-00-2 (Methyl demeton); 8065-36-9 (Bufencarb); 10311-84-9 (Dialifor); 12407-86-2; 13121-70-5 (Cyhexatin); 13194-48-4 (Ethoprop); 13366-73-9 (Photodieldrin); 13684-63-4 (Phenmedipham); 14861-17-7; 15271-41-7 (Tranid); 15299-99-7 (Napropamide); 16662-85-4 (Carbophenothion sulfone); 16662-86-5; 17297-40-4 (Carbophenothion sulfoxide); 18181-80-1 (Bromopropylate); 19044-88-3; 19666-30-9; 19750-95-9 (Chlordimeform hydrochloride); 21087-64-9D (Metribuzin); 21564-17-0 (TCMTB); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9 (Gardona); 22781-23-3 (Bendiocarb); 25006-32-0; 25168-26-7 (2,4-D Isooctyl ester); 25311-71-1 (Isofenphos); 27554-26-3 (Diisooctyl phthalate); 31972-44-8 (Fenamiphos sulfone); 32809-16-8; 34643-46-4 (Prothiophos); 35554-44-0 (Imazalil); 35850-29-4; 36734-19-7 (Iprodione); 39765-80-5 (trans-Nonachlor); 42874-03-3 (Oxyfluorfen); 60168-88-9 (Fenarimol); 61949-76-6 (cis-Permethrin); 63637-89-8; 72051-31-1; 109925-03-3 (a-Ethylhexyl diphenyl phosphate); 109973-57-1; 110070-01-4 Role: ANT (Analyte), PRP (Properties), ANST (Analytical study) (linear programmed temp. gas chromatog. of, on Me silicone, emergence temp. index and relative retention time for) Emergence temp. indexes and relative retention times of nearly 600 pesticides and industrial chem. are sequentially tabulated to provide a basis for the identification of unknowns detected on Me silicone columns when programmed temp. gas chromatog. is used. A technique normalizing column parameters is described to enable duplication of the tabulated data on columns which have different dimensions, amt. of stationary phase, and/or other operating parameters. Suggestions for enhancing the precision with which these data can be reproduced on other equipment are presented. [on SciFinder (R)] 0021-9673 gas/ chromatog/ industrial/ chem/ pesticide;/ linear/ programmed/ temp/ gas/ chromatog;/ pesticide/ programmed/ temp/ gas/ chromatog;/ emergence/ temp/ index/ industrial/ chem/ pesticide

1122. Sazonov, P. V. (Basic Directions in the Developmental Patterns of an Assortment of Organic Pesticides. *Zashch. Rast. (Moscow) 9: 20-21; 1974.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. The basic trends in the development of the assortment of pesticides in the USSR are outlined. The development of new preparations with reduced toxicity to warm-blooded animals has been the most characteristic trend during the last decade. Most modern pesticides have LD50 values ranging from 200 to 1,000 mg/kg, while the LD50 of tedion (tetradifon) and neoron (bromopropylate) is over 5,000 mg/kg. Along with the development of low-toxicity preparations, highly persistent pesticides, such as DDT, polychloropinene (strobane), and polychlorocamphene (toxaphene), will be phased out gradually. The combination of chemical and biological means of pest control is made possible by the development of preparations with very low toxicity in entomophagous species as compared with their toxicity for the pests to be controlled, e.g., rogor

(dimethoate), phosalone, menazon, and phthalophos (phosmet). Pest control with preparations pertaining to different classes is expected to prevent the manifestation or reduce the resistance of pests to pesticides.
LANGUAGE: rus

1123. Scaife, B. K. P. (1999). The dielectric spheroid revisited. *Journal of Molecular Structure* 479: 285-297.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Detailed formulae are derived and discussed for the electric potential distribution in a system consisting of a dielectric prolate spheroid surrounded by a confocal shell of a different permittivity. The calculation of the Frohlich self-energy for a spontaneously axially polarized prolate spheroid is presented. Confocal shell/ Dielectric spheroid/ Electric potential distribution
http://www.sciencedirect.com/science/article/B6TGS-3YMVKD7-M/2/df2c8209071b20b2cfdf9a05737739e2

1124. Schaber, B. D., Dormaar, J. F., and Entz, T. (1993). Effect of Burning Alfalfa Stubble for Insect Pest Control on Seed Yield. *Journal of the entomological society of british columbia* 90: 41-45.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOXICANT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Burning alfalfa (Medicago sativa (L.)) stubble in the spring has been shown to be effective in reducing some insect pest populations. A study was conducted to determine the long-term effect of this practice on seed yield. Plots were established at Lethbridge, Alberta, and burned in the spring or fall at various heights of plant growth from 1983 to 1989, with one half of each plot treated annually with insecticides when the pest insects were in their most vulnerable stage. Yields from burned treatments were not significantly different from unburned ones for the years 1983 to 1986, and 1988. In 1987, treatments burned in the fall had significantly higher yields than other treatments. Burning at 15-20 cm of growth significantly reduced yield compared to burning before spring growth. In 1989, yields from plots burned at 15-20 cm of growth were significantly lower than those burned every fall or spring. Insecticide treated plots had significantly higher yields in all years e
MESH HEADINGS: BIOLOGY/METHODS
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: HEAT
MESH HEADINGS: HEATING
MESH HEADINGS: THERMOGRAPHY/METHODS
MESH HEADINGS: CELL DIFFERENTIATION
MESH HEADINGS: FETAL DEVELOPMENT
MESH HEADINGS: MORPHOGENESIS
MESH HEADINGS: EMBRYOLOGY
MESH HEADINGS: PLANTS/ANATOMY & HISTOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: ANIMAL FEED
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA

MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: LEGUMES
MESH HEADINGS: INSECTS
KEYWORDS: Methods
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: External Effects-Temperature as a Primary Variable-Hot (1971-)
KEYWORDS: Temperature: Its Measurement
KEYWORDS: Developmental Biology-Embryology-Morphogenesis
KEYWORDS: Morphology
KEYWORDS: Plant Physiology
KEYWORDS: Agronomy-Forage Crops and Fodder
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Leguminosae
KEYWORDS: Insecta-Unspecified
LANGUAGE: eng

1125. Schaefer, W. and Zahradnik, H. P. (Studies on the Effect of Environmental Pollutants on Reproduction. *Bayerisches landesamt fuer wasserwirtschaft, institut fuer wasserforschung (ed.). Muenchener beitraege zur abwasser- fischerei- und flussbiologie, band 50. Stoffe mit endokriner wirkung im wasser; (munich contributions to wastewater fishery and river biology, vol. 50. Endocrine disrupting chemicals in water). 203p. R. Oldenbourg verlag gmbh: munich, germany; munich, germany. Isbn 3-486-26375-7.; 50 (0). 1997. 20-30.*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER HUMAN CHILD FEMALE TOXICOLOGY ENDOCRINE DISRUPTING CHEMICALS ECOTOXICITY INFERTILITY CANCER DIETHYLSTILBESTROL ENDOCRINE DISRUPTER TOXIN DES ESTROGEN-MIMETIC EFFECTS HORMONAL DISORDER REPRODUCTIVE SYSTEM DISEASE-FEMALE NEOPLASTIC DISEASE ENDOCRINE DISEASE GERMANY EUROPE
MESH HEADINGS: GENITALIA/PATHOLOGY
MESH HEADINGS: GENITALIA/PHYSIOPATHOLOGY
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: FEMALE
MESH HEADINGS: GONADS
MESH HEADINGS: MALE
MESH HEADINGS: PLACENTA
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION

MESH HEADINGS: HOMINIDAE
KEYWORDS: Reproductive System-Pathology
KEYWORDS: Endocrine System-Gonads and Placenta
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Hominidae
LANGUAGE: ger

1126. Schaeffer, O., Weil, L., and Niessner, R. (Determination of Organophosphorus Compounds and Carbamates by Their Inhibition of Cholinesterase Part 4. Qualitative and Quantitative Determination of a Multicomponent-Pesticide Mixture in Water by Bioanalytical and Chemometric Methods. *Fachgruppe wasserchemie in der gesellschaft deutscher chemiker (ed.). Vom wasser, band 82; (water, vol. 82). Xiv+425p. Vch verlagsgesellschaft mbh: weinheim, germany; vch publishers, inc.: New york, new york, usa. Isbn 3-527-28650-0.; 0 (0). 1994. 233-246.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER GROUNDWATER SURFACE WATER DRINKING WATER INSECTICIDE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: ENZYMES/ANALYSIS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Ecology
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Enzymes-Methods
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: ger

1127. Schamberger, M. R., Peters, J. E., and Leong, K. H. (1990). Collection of prolate spheroidal aerosol particles by charged spherical collectors. *Journal of Aerosol Science* 21: 539-554.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The effects of electrostatic forces and torques on the dynamics of prolate spheroidal particles are examined in relation to collision with a 30 [mu]m radius collector droplet. When the non-spherical particles are uncharged the influence of the electrostatic torque can lead to either increases or decreases in collision efficiencies. Initial particle orientation is shown to be important for low collector charges but insignificant for high collector charges, when the electrostatic torque aligns the particle parallel to the electric field. For the charged particle case, where the Coulombic force is dominant, the collision efficiencies for particles having large aspect ratios are significantly lower than those for spherical particles. Depending on the particle and collector charge levels, both front and back capture modes are found. Image forces are shown to be insignificant for highly charged particles. http://www.sciencedirect.com/science/article/B6V6B-488G51G-11/2/d45aaa8ceddd9e2487d284dca2fa726f

1128. Schattenberg, H. J Iii and Hsu, J. P. (1992). Pesticide Residue Survey of Produce From 1989 to 1991. *J aoac (assoc off anal chem) int* 75: 925-933.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO SPECIES (DEAD).

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A pesticide residue screening program for 111 pesticides was performed on 6970 produce samples. Of the 81 varieties of samples, 2.4% contained illegal levels of pesticide residues (that is, higher than U.S. Environmental Protection Agency (EPA) tolerance or no tolerance specified), and 13.3% contained levels within tolerable limits established by EPA. Pesticide results are presented both by commodity and category type. The nature of violative residues is discussed.
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Institutions
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-Foods
KEYWORDS: Pest Control
LANGUAGE: eng

1129. Schaub, S. A., Bausum, H. T., and Taylor, G. W. (Fate of Virus in Wastewater Applied to Slow-Infiltration Land Treatment Systems. *Appl environ microbiol. 1982, aug; 44(2):383-94. [Applied and environmental microbiology]: Appl Environ Microbiol*.
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

ABSTRACT: The removal of seeded coliphage f2 and indigenous enteroviruses from primary and secondary wastewaters applied by spray irrigation to sandy loam and silt loam soils in field test cells was examined. The amount of f2 recovered from 170-cm-deep soil percolate samples taken over a 53-day period never exceeded 0.1% of applied virus levels and was usually below detection limits. Indigenous enterovirus levels in percolate waters also constituted only a small portion of those found in the wastewaters. At 10 days after seeding, f2 virus was present throughout the soil column but tended to accumulate around the soil core middepths. Coliphage f2 disappeared from the soil surface regions at a high rate, and by 53 days very little virus could be detected within the

length of the soil columns. Sterilized soil core segments from different depths were studied to determine their virus adsorption capabilities when suspended in either wastewater, test cell percolate water, or distilled water containing divalent cations. The adsorptive capacity of Windsor and Charlton soils for poliovirus 1 and coliphage f2 increased greatly with the soil sample depth until leveling off at the midcore depths. Soil suspended in wastewater had the least virus adsorption capability for all depths studied.
MESH HEADINGS: Animals
MESH HEADINGS: Cell Line
MESH HEADINGS: Cercopithecus aethiops
MESH HEADINGS: Coliphages/growth &amp
MESH HEADINGS: development/*isolation &amp
MESH HEADINGS: purification
MESH HEADINGS: Escherichia coli/growth &amp
MESH HEADINGS: development
MESH HEADINGS: Kidney
MESH HEADINGS: Poliovirus/growth &amp
MESH HEADINGS: development/*isolation &amp
MESH HEADINGS: purification
MESH HEADINGS: *Sewage
MESH HEADINGS: Soil Microbiology
MESH HEADINGS: *Waste Disposal, Fluid
MESH HEADINGS: *Water Microbiology
LANGUAGE: eng

1130. Schenck, F. J. and Hobbs, J. E (2004). Evaluation of the quick, easy, cheap, effective, rugged and safe (QuEChERS) approach to pesticide residue analysis. *Bulletin of Environmental Contamination and Toxicology* 73: 24-30.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:631119
Chemical Abstracts Number: CAN 142:238835
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Brassica oleracea capitata; Fruit; Malus pumila; Pesticides; Phaseolus vulgaris; Pisum sativum macrocarpon; Plant analysis; Prunus persica; Sample preparation; Vegetable (detn. of pesticides in fruit and vegetables by QuEChERS method); Capsicum annuum annuum (grossum group; detn. of pesticides in fruit and vegetables by QuEChERS method)
CAS Registry Numbers: 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 86-50-0 (Azinphos methyl); 732-11-6 (Phosmet); 959-98-8 (Endosulfan I); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 2921-88-2 (Chlorpyriphos); 10265-92-6 (Methamidophos); 33213-65-9 (Endosulfan II) Role: ANT (Analyte), ANST (Analytical study) (detn. of pesticides in fruit and vegetables by QuEChERS method)
Citations: Anastassiades, M; J AOAC Int 2002, 86, 412
Citations: Fillion, J; J AOAC Int 2000, 83, 698
Citations: Luke, M; J AOAC Int 1975, 58, 1020
Citations: McMahon, B; Pesticide Analytical Manual, section 302 1994
Citations: Parfitt, C; Official Methods of Analysis of AOAC International, section 10.1.2 2000, 1
Citations: Schenck, F; J Chromatog A 2000, 868, 51
Citations: Schenck, F; J Sep Sci 2002, 25, 10 The quick, easy, cheap, effective, rugged and safe (QuEChERS) method is a rapid and inexpensive approach to the anal. of pesticide residues in fruits and vegetables. The QuEChERS method entails extg. the pesticide residues from 10 g of

sample by vortex mixing with 10 mL of acetonitrile. Replicate analyses performed on 11 samples contg. incurred pesticide residues using both the QuEChERS method and the two traditional pesticide residue methods used by Canadian and US Government regulatory agencies gave comparable results. The original QuEChERS method was successfully modified, resulting in increased sensitivity and exts. that could be analyzed using Hall electrolytic cond. detectors. [on SciFinder (R)] 0007-4861 pesticide/ detn/ fruit/ vegetable/ QuEChERS

1131. Schenck, F. J. and Howard-King, V (1999). Rapid solid phase extraction cleanup for pesticide residues in fresh fruits and vegetables. *Bulletin of Environmental Contamination and Toxicology* 63: 277-281.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1999:585672
Chemical Abstracts Number: CAN 131:285567
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Apple; Carrot; Food analysis; Fruit; Pesticides; Squash; Vegetable (rapid solid phase extn. cleanup for pesticide residues in fresh fruits and vegetables); Extraction (solid-phase; rapid solid phase extn. cleanup for pesticide residues in fresh fruits and vegetables)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 72-20-8 (Endrin); 72-55-9; 78-48-8 (DEF); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 298-00-0 (Parathion methyl); 298-01-1 ((E)-Mevinphos); 298-04-4 (Disulfoton); 299-84-3 (Ronnel); 311-45-5; 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 1024-57-3 (Heptachlor epoxide); 1113-02-6 (Omethoate); 1634-78-2; 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 4824-78-6 (Bromophos ethyl); 5103-73-1 (cis-Nonachlor); 5103-74-2 (trans-Chlordane); 6923-22-4 (Monocrotophos); 7526-28-5; 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13593-03-8 (Quinalphos); 18181-70-9 (Iodofenfos); 18708-87-7 (b-Chlorfenvinphos); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9 (Gardona); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate); 60238-56-4 (Chlorthiophos) Role: ANT (Analyte), PEP (Physical, engineering or chemical process), ANST (Analytical study), PROC (Process) (rapid solid phase extn. cleanup for pesticide residues in fresh fruits and vegetables)
Citations: Andreolini, F; Anal Chem 1987, 59, 1720
Citations: Cairns, T; Rapid Comm Mass Spectrom 1993, 7, 1070
Citations: DiCorcia, A; Anal Chem 1989, 61, 1363
Citations: Erney, D; J Chromatogr 1993, 638, 57
Citations: Luke, M; J Assoc Off Anal Chem 1975, 58, 1020
Citations: Meola, J; California Pesticide Residue Workshop 1997
Citations: Nolan, L; The Supelco Reporter 1996, 15, 8
Citations: Selwyn, J; 109th AOAC International Meeting 1995 A rapid solid phase extn. cleanup for fresh fruit and vegetable exts. obtained by the procedure of Luke, M. et al. (1975) for pesticide anal. is described in which tandem graphitized carbon black and anion exchange solid phase extn. columns are used. Recoveries of a no. of pesticides from apples, carrots and zucchini are reported. [on SciFinder (R)] 0007-4861 pesticide/ extn/ detn/ fruit/ vegetable/ chromatog;/ solid/ phase/ extn/ pesticide

1132. Schenck, Frank J. and Casanova, John (1999). Rapid screening for organochlorine and organophosphorus pesticides in milk using C18 and graphitized carbon black solid phase extraction cleanup. *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes* B34: 349-362.

Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1999:283750
Chemical Abstracts Number: CAN 131:57951
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organochlorine; rapid screening for organochlorine and organophosphorus pesticides in milk using C18 and graphitized carbon black solid phase extn. cleanup); Pesticides (organophosphorus; rapid screening for organochlorine and organophosphorus pesticides in milk using C18 and graphitized carbon black solid phase extn. cleanup); Food contamination; Milk analysis (rapid screening for organochlorine and organophosphorus pesticides in milk using C18 and graphitized carbon black solid phase extn. cleanup); Graphitized carbon black Role: ARU (Analytical role, unclassified), ANST (Analytical study) (rapid screening for organochlorine and organophosphorus pesticides in milk using C18 and graphitized carbon black solid phase extn. cleanup); Extraction (solid-phase; rapid screening for organochlorine and organophosphorus pesticides in milk using C18 and graphitized carbon black solid phase extn. cleanup)
CAS Registry Numbers: 50-29-3 (DDT); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-20-8 (Endrin); 72-43-5 (p,p'-Methoxychlor); 72-54-8; 72-55-9 (DDE); 76-44-8 (Heptachlor); 78-48-8 (DEF); 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 126-75-0 (Demeton-s); 141-66-2 (Dicrotophos); 298-00-0 (Parathion methyl); 298-01-1; 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 309-00-2; 319-84-6 (a-BHC); 319-85-7 (b-BHC); 333-41-5 (Diazinon); 338-45-4; 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 944-22-9 (Fonofos); 950-35-6; 950-37-8 (Methidathion); 1024-57-3 (Heptachlor epoxide); 1113-02-6 (Omethoate); 1634-78-2; 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2497-06-5 (Disulfoton sulfone); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyrifos); 3424-82-6; 4824-78-6 (Bromophos ethyl); 5103-71-9 (cis-Chlordane); 5103-73-1 (cis-Nonachlor); 5103-74-2 (trans-Chlordane); 5598-13-0 (Chlorpyrifos methyl); 6923-22-4 (Monocrotophos); 7526-28-5; 10265-92-6 (Methamidophos); 13194-48-4 (Ethoprop); 13593-03-8 (Quinalphos); 18181-70-9; 18708-86-6 (a-Chlorfenvinphos); 18708-87-7 (b-Chlorfenvinphos); 21923-23-9; 22224-92-6 (Fenamiphos); 22248-79-9 (Gardona); 23505-41-1 (Pirimiphos ethyl); 27304-13-8 (Oxychlordane); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate); 30667-99-3 (o,p'-Methoxychlor); 39765-80-5 (trans-Nonachlor); 66229-12-7 Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (rapid screening for organochlorine and organophosphorus pesticides in milk using C18 and graphitized carbon black solid phase extn. cleanup); 144636-46-4 (Carbon cluster (C18) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (rapid screening for organochlorine and organophosphorus pesticides in milk using C18 and graphitized carbon black solid phase extn. cleanup)
Citations: Ang, C; J Assoc Off Anal Chem 1973, 56, 718
Citations: Barcarolo, R; J High Resolut Chromatogr 1988, 11, 539
Citations: Beroza, M; J Assoc Off Anal Chem 1966, 49, 1007
Citations: Erney, D; J Chromatogr 1993, 638, 57
Citations: Erney, D; J High Resolut Chromatogr 1995, 18, 59
Citations: Junk, G; Anal Chem 1988, 60, 1347
Citations: Manes, J; J Chromatogr 1993, 642, 195
Citations: McMahon, B; Pesticide Analytical Manual. Volume I 1993
Citations: Moffitt, R; Pesticides, Plant Growth Regulators, and Food Additives 1963, I, 545
Citations: Parfitt, C; J AOAC Int 1997, 80, 169
Citations: Pico, Y; J Agric Food Chem 1995, 43, 1610
Citations: Prapamontol, T; J Chromatogr 1991, 552, 249
Citations: Redondo, M; J High Resolut Chromatogr 1991, 14, 597

Citations: Sawyer, L; Official Methods of Analysis 1997
Citations: Schenck, F; Food Addit and Contam 1995, 12, 535
Citations: Suzuki, T; J Assoc Off Anal Chem 1979, 62, 681 A rapid, multi-residue, solid phase extn. (SPE) technique for the isolation and gas chromatog. detn. of organochlorine and moderately polar organophosphorus pesticide residues in milk is described. Milk is sonicated with an acetonitrile-acetone-methanol mixt. and centrifuged. The supernatant is subjected to a cleanup using both C18 and graphitized carbon black SPE columns. The pesticide residues are detd. by gas chromatog. with electron capture and flame photometric detection. The method required minimal vols. of solvent and resulted in the prodn. of minimal vols. of hazardous waste. [on SciFinder (R)] 0360-1234 pesticide/ organophosphorus/ organochlorine/ detn/ milk/ extn

1133. Schenck, Frank J. and Donoghue, Dan J (2000). Determination of Organochlorine and Organophosphorus Pesticide Residues in Eggs Using a Solid Phase Extraction Cleanup. *Journal of Agricultural and Food Chemistry* 48: 6412-6415 .
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:839460
Chemical Abstracts Number: CAN 134:114977
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Egg; Food analysis; Gas chromatography (detn. of organochlorine and organophosphorus pesticide residues in eggs using a solid phase extn. cleanup); Pesticides (organochlorine; detn. of organochlorine and organophosphorus pesticide residues in eggs using a solid phase extn. cleanup); Pesticides (organophosphorus; detn. of organochlorine and organophosphorus pesticide residues in eggs using a solid phase extn. cleanup); Extraction (solid-phase; detn. of organochlorine and organophosphorus pesticide residues in eggs using a solid phase extn. cleanup)
CAS Registry Numbers: 50-29-3 (p,p'-DDT); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-55-9 (p,p'-DDE); 86-50-0 (Azinphos-methyl); 141-66-2 (Dicrotophos); 299-84-3 (Ronnel); 311-45-5; 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 1024-57-3 (Heptachlor epoxide); 1113-02-6 (Omethoate); 1634-78-2; 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyriphos); 5598-13-0; 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-70-9 (Iodofenfos); 18708-86-6 (a-Chlorfenvinphos); 22224-92-6 (Fenamiphos); 22248-79-9 (Gardona); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 39765-80-5 (trans-Nonachlor) Role: ANT (Analyte), ANST (Analytical study) (detn. of organochlorine and organophosphorus pesticide residues in eggs using a solid phase extn. cleanup)
Citations: Blaha, J; J Assoc Off Anal Chem 1985, 68, 1095
Citations: Donoghue, D; Poult Sci 1995, 75, 321
Citations: Donoghue, D; Poult Sci 1996, 76, 458
Citations: Donoghue, D; J Food Prot 1997, 60, 1251
Citations: Erney, D; J Chromatogr 1993, 638, 57
Citations: Leoni, V; J AOAC Int 1992, 75, 511
Citations: McMahon, B; Pesticide Analytical Manual 1994
Citations: Sawyer, L; Official Methods of Analysis 1999
Citations: Schenck, F; J Environ Sci Health B 2000, 35, 1
Citations: Schenck, F; J AOAC Int 1996, 79, 1454
Citations: Sheridan, R; J AOAC Int 1999, 82, 982
Citations: Waldron, A; Poult Sci 1974, 53, 1428 A multiresidue solid phase extn. (SPE) method for the isolation and subsequent gas chromatog. detn. of nonpolar organochlorine and polar organophosphorus pesticide residues in eggs is described. The method uses an acetonitrile extn.

followed by an SPE cleanup using graphitized carbon black and aminopropyl SPE columns. Organophosphorus pesticides are detd. by gas chromatog. with flame photometric detection. After further cleanup of the ext. using Florisil SPE columns, organochlorine pesticides are detd. by gas chromatog. with electron capture detection. Studies were performed using eggs contg. both fortified and incurred pesticide residues. The av. recoveries were 86-108% for 8 fortified organochlorine pesticide residues and 61-149% for 28 fortified organophosphorus pesticide residues. [on SciFinder (R)] 0021-8561 organochlorine/ organophosphorus/ pesticide/ food/ analysis/ egg;/ solid/ phase/ extn/ organochlorine/ organophosphorus/ pesticide

1134. Schenck, Frank J. and Howard-King, Vinetta (2000). Determination of organochlorine and organophosphorus pesticide residues in low moisture, nonfatty products using a solid phase extraction cleanup and gas chromatography. *Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes* B35: 1-12.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:125590
Chemical Abstracts Number: CAN 132:250186
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Cereal; Corn; Feed analysis; Feed contamination; Gas chromatography; Humidity; Oat; Wheat (detn. of organochlorine and organophosphorus pesticide residues in low moisture, nonfatty products using a solid phase extn. cleanup and gas chromatog.); Pesticides (organophosphorus and organochlorine; detn. of organochlorine and organophosphorus pesticide residues in low moisture, nonfatty products using a solid phase extn. cleanup and gas chromatog.); Extraction (solid-phase, multiresidue; detn. of organochlorine and organophosphorus pesticide residues in low moisture, nonfatty products using a solid phase extn. cleanup and gas chromatog.)
CAS Registry Numbers: 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 72-20-8 (Endrin); 72-43-5 (p,p'-Methoxychlor); 72-55-9; 86-50-0 (Azinphos methyl); 121-75-5 (Malathion); 141-66-2 (Dicrotophos); 299-84-3 (Ronnel); 311-45-5 (Paraoxon); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 1024-57-3 (Heptachlor epoxide); 1113-02-6 (Omethoate); 1634-78-2 (Malaoxon); 2310-17-0 (Phosalone); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos ethyl); 2921-88-2 (Chlorpyriphos); 3734-49-4 (Nonachlor); 5103-74-2 (trans-Chlordane); 5598-13-0; 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 13593-03-8 (Quinalphos); 18181-70-9; 18708-87-7 (b-Chlorfenvinphos); 22224-92-6 (Fenamiphos); 22248-79-9 (Gardona); 29232-93-7 (Pirimiphos methyl); 30560-19-1 (Acephate); 30667-99-3 (o,p'-Methoxychlor) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (detn. of organochlorine and organophosphorus pesticide residues in low moisture, nonfatty products using a solid phase extn. cleanup and gas chromatog.)
Citations: Andreoloni, F; Anal Chem 1987, 59, 1720
Citations: Erney, D; J Chromatogr 1993, 638, 57
Citations: Hajslova, J; J Chromatogr A 1998, 800, 283
Citations: Luke, M; Bull Environ Contam Toxicol 1983, 30, 110
Citations: Meloa, J; California Pesticide Residue Workshop 1997
Citations: Sawyer, L; Official Methods of Analysis of the Association of Official Analytical Chemists, 15 th edition 1990
Citations: Selwyn, J; 109th AOAC International Meeting and Exposition 1995 A multiresidue solid-phase extn. (SPE) method for the isolation and subsequent gas chromatog. detn. of organochlorine and organophosphorus pesticide residues in low-moisture, nonfatty products is described. Residues are extd. from samples with an acetonitrile/water mixt. Cleanup of the ext. is performed using graphitized carbon black and anion exchange SPE columns, and anal. is performed by gas chromatog. with Hall electrolytic cond. and flame photometric detection.

Recovery data was obtained by fortifying corn, oats and wheat with pesticides. The av. recoveries were 79-123% for 8 organochlorine and 51-122% for 28 organophosphorus pesticide residues. The limit of quantitation for chlorpyriphos was 0.05 ppm using the Hall electrolytic cond. detector and <0.005 ppm using the flame photometric detector. [on SciFinder (R)] 0360-1234 pesticide/ organophosphorus/ organochlorine/ detn/ moisture

1135. Schenck, Frank J. and Lehotay, Steven J (2000). Does further clean-up reduce the matrix enhancement effect in gas chromatographic analysis of pesticide residues in food? *Journal of Chromatography, A* 868: 51-61.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:124658
Chemical Abstracts Number: CAN 132:236047
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mandarin orange (Clementine; sample clean-up and matrix enhancement effect in gas chromatog. of pesticide residues in food); Sample preparation (clean-up and matrix enhancement effect in gas chromatog. of pesticide residues in food); Insecticides (organophosphorus; sample clean-up and matrix enhancement effect in gas chromatog. of pesticide residues in food); Apple; Bean; Capillary gas chromatography; Carrot; Food analysis; Orange; Pea; Plant analysis; Raspberry; Wheat (sample clean-up and matrix enhancement effect in gas chromatog. of pesticide residues in food); Extraction (solid-phase; sample clean-up and matrix enhancement effect in gas chromatog. of pesticide residues in food)
CAS Registry Numbers: 56-38-2 (Parathion); 60-51-5 (Dimethoate); 121-75-5 (Malathion); 141-66-2 (Dicrotophos); 311-45-5 (Paraoxon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 1113-02-6 (Omethoate); 1634-78-2 (Malaoxon); 2921-88-2 (Chlorpyrifos); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13457-18-6 (Pyrazophos); 16662-85-4 (Carbophenothion sulfone); 30560-19-1 (Acephate) Role: ANT (Analyte), ANST (Analytical study) (sample clean-up and matrix enhancement effect in gas chromatog. of pesticide residues in food)
Citations: 1) Hajslova, J; J Chromatogr A 1998, 800, 283
Citations: 2) Erney, D; J Chromatogr 1993, 638, 57
Citations: 3) Erney, D; Chromatgr 1993, 16, 501
Citations: 4) Erney, D; J High Resolut Chromatgr 1997, 20, 375
Citations: 5) Johnson, P; J Chromatogr A 1997, 765, 3
Citations: 6) Lehotay, S; J AOAC Int 1995, 78, 821
Citations: 7) Anastassiades, M; Deutsche Lebensmittel-Rundschau 1997, 93, 316
Citations: 8) Anon; Pesticide Analytical Methods in Sweden Part 1 1998
Citations: 9) Lehotay, S; J AOAC Int in press
Citations: 10) Wylie, P; J AOAC Int 1996, 79, 571
Citations: 11) Hill, A; European Commission document 7826/VI/97 1997
Citations: 12) Kocourek, V; J Chromatogr A 1998, 800, 297
Citations: 13) Anon; Multiresidue Methods 3rd Edition 1994, 1
Citations: 14) Luke, M; J Assoc Off Anal Chem 1975, 58, 1020
Citations: 15) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 16) Sojo, L; J Chromatogr A 1997, 788, 141
Citations: 17) Schenck, F; Bull Environ Contam Toxicol 1999, 63, 277
Citations: 18) Crescenzi, C; J Chromatogr A 1996, 733, 41
Citations: 19) Cairns, T; Rapid Commun Mass Spectrom 1993, 7, 1070
Citations: 20) Lee, S; J Anal Chem 1991, 339, 376
Citations: 21) Anon; Analytical Methods for Pesticide Residues in Foodstuffs 6th Edition 1996

Sample exts. of apples, peas, green beans, oranges, raspberries, clementines, carrots, and wheat obtained using the Food and Drug Administration (acetone extn.) and Canadian Pest Management Regulatory Agency (acetonitrile extn.) multiresidue methods for pesticides were subjected to clean-up using different solid-phase extn. (SPE) cartridges in an attempt to reduce or eliminate the matrix enhancement effect. The matrix enhancement effect is related to the blocking of active sites on the injector liner by matrix components, thereby increasing signal in the presence of matrix vs. stds. in solvent in which the pesticides themselves interact with the active sites. Graphitized carbon black (GCB) was often used in combination with various anion-exchange SPE cartridges. The exts. were then spiked with organophosphorus insecticides. These process stds. were then compared to stds. in acetone of the same concn. using gas chromatog. with flame photometric detection or ion trap mass spectrometric detection. Sample matrix enhancement varied from little to no effect for some pesticides (e.g. chlorpyrifos, malathion) to >200% in the case of certain susceptible pesticides. The GCB removed color components but showed little effect in reducing matrix enhancement by itself. The anion-exchange cartridges in combination with GCB or not, substantially reduced the matrix enhancement effect but did not eliminate it. [on SciFinder (R)] 0021-9673 food/ analysis/ insecticide/ gas/ chromatog/ matrix/ effect;/ solid/ phase/ extn/ food/ analysis/ pesticide/ matrix/ effect

1136. Scheyer, Anne, Morville, Stephane, Mirabel, Philippe, and Millet, Maurice (2006). Analysis of trace levels of pesticides in rainwater using SPME and GC-tandem mass spectrometry. *Analytical and Bioanalytical Chemistry* 384: 475-487 .
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:15931
Chemical Abstracts Number: CAN 144:197919
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Gas chromatography; Pesticides; Tandem mass spectrometry (anal. of trace levels of pesticides in rainwater using SPME and GC-tandem mass spectrometry); Microextraction (solid-phase; anal. of trace levels of pesticides in rainwater using SPME and GC-tandem mass spectrometry)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (anal. of trace levels of pesticides in rainwater using SPME and GC-tandem mass spectrometry); 58-89-9 (Lindane); 62-73-7 (Dichlorovos); 86-50-0 (Azinphos-methyl); 133-06-2 (Captan); 298-00-0 (Methylparathion); 470-90-6; 732-11-6 (Phosmet); 959-98-8 (a-Endosulfan); 1582-09-8 (Trifluralin); 1912-24-9 (Atrazine); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos-ethyl); 7786-34-7 (Mevinphos); 15972-60-8 (Alachlor); 33213-65-9 (b-Endosulfan); 36734-19-7 (Iprodione); 43121-43-3 (Triadimefon); 51218-45-2 (Metolachlor); 83164-33-4 (Diflufenican); 107534-96-3 (Tebuconazole) Role: ANT (Analyte), ANST (Analytical study) (anal. of trace levels of pesticides in rainwater using SPME and GC-tandem mass spectrometry)
Citations: 1) Sanusi, A; Atmos Environ 1999, 33, 4941
Citations: 2) Abbot, D; Nature 1965, 208, 1317
Citations: 3) Tarrant, K; Nature 1968, 219, 725
Citations: 4) Millet, M; Environ Sci Pollut Res 1997, 4(3), 172
Citations: 5) Briand, O; Rev Sci Eau 2002, 15, 767
Citations: 6) de Rossi, C; Phys Chem Earth 2003, 28, 307
Citations: 7) Grynkiewicz, M; Water Air Soil Pollut 2003, 149, 3
Citations: 8) Quaghebeur, D; J Environ Monit 2004, 6, 182
Citations: 9) Chevreuil, M; Sci Total Environ 1996, 182, 25
Citations: 10) Barcelo, D; J Chromatogr A 1993, 643, 117
Citations: 11) Albanis, T; J Chromatogr A 1995, 707, 283

Citations: 12) Epple, J; Geoderma 2002, 105, 327
Citations: 13) Sampedro, M; J Chromatogr A 2000, 893, 347
Citations: 14) Sauret, N; Environ Poll 2000, 110, 243
Citations: 15) Scheyer, A; Anal Bioanal Chem 2005, 381, 1226
Citations: 16) Aguilar, C; J Chromatogr A 1998, 795, 105
Citations: 17) Sauret, N; PhD thesis University of Strasbourg 2002, 230
Citations: 18) Beltran, J; J Chromatogr A 2000, 885, 389
Citations: 19) Dugay, J; J Chromatogr A 1998, 795, 27
Citations: 20) Goncalves, C; J Chromatogr A 2002, 963, 19
Citations: 21) Lambropoulou, D; J Chromatogr A 2000, 893, 143
Citations: 22) Lambropoulou, D; J Chromatogr A 2001, 922, 243
Citations: 23) Lord, H; J Chromatogr A 2000, 885, 153
Citations: 24) Louch, D; Anal Chem 1992, 64, 1187
Citations: 25) Eisert, R; Am Soc Mass Spectrom 1995, 6, 1119
Citations: 26) Hernandez, F; Anal Chem 2000, 72, 2313
Citations: 27) Pi-Guey, S; Talanta 1999, 49, 393
Citations: 28) Lode, O; Sci Total Environ 1995, 160/161, 421
Citations: 29) Huskes, R; Chemosphere 1997, 35, 3013
Citations: 30) Unsworth, J; Pure Appl Chem 1999, 71, 1359
Citations: 31) Scheyer, A; Chemosphere 2005, 58, 1517 A multiresidue method using gas chromatog. coupled to ion trap tandem mass spectrometry (GC-ITD-MS/MS) assocd. with solid phase microextn. (SPME) was developed for the anal. of 20 pesticides commonly used in the Alsace region in rainwater samples. Since the pesticides were expected to be present at very low concns. and in complex matrixes, the anal. method used was both highly selective and sensitive. Therefore, fibers coated with polyacrylate (PA), polydimethylsiloxane (PDMS) and polydimethylsiloxane-divinylbenzene (PDMS-DVB) were tested, and the parameters affecting the precision and accuracy of the SPME method were studied and optimized. These parameters include the type of fiber, the adsorption time, the effect of salt, and the extn. temp. The PDMS fiber was the most polyvalent for the extns. of the different pesticides studied. Detection limits of between 5 and 500 ng L-1, depending on the compds. under study (except for those which could not be analyzed: captan and mevinphos), were obtained with this anal. procedure. This method was applied to the anal. of rainwater samples collected simultaneously on a weekly basis at one rural and one urban site between Mar. 2002 and July 2003. While some of the 20 pesticides analyzed were constantly detected (such as lindane and atrazine), a strong temporal variability was obsd. for some of the others (including alachlor, metolachlor, atrazine). [on SciFinder (R)] 1618-2642 pesticide/ detn/ rainwater/ SPME/ GC/ tandem/ mass/ spectrometry

1137. Scheyer, Anne, Morville, Stephane, Mirabel, Philippe, and Millet, Maurice (2005). A multiresidue method using ion-trap gas chromatography-tandem mass spectrometry with or without derivatization with pentafluorobenzylbromide for the analysis of pesticides in the atmosphere. *Analytical and Bioanalytical Chemistry* 381: 1226-1233.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:258374
Chemical Abstracts Number: CAN 142:486247
Section Code: 59-1
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; pesticides detn. in air by ion-trap gas chromatog.-tandem mass spectrometry with or without derivatization with pentafluorobenzylbromide); Gas chromatography (mass spectrometry combined with; pesticides detn. in air by ion-trap gas chromatog.-tandem mass spectrometry with or without derivatization

with pentafluorobenzylbromide); Air analysis; Ion trap mass spectrometry; Pesticides; Tandem mass spectrometry (pesticides detn. in air by ion-trap gas chromatog.-tandem mass spectrometry with or without derivatization with pentafluorobenzylbromide)
CAS Registry Numbers: 58-89-9 (Lindane); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos-methyl); 93-65-2 (Mecoprop); 94-74-6 (4-Chloro-2-methylphenoxyacetic acid); 94-75-7 (2,4-Dichlorophenoxyacetic acid); 133-06-2 (Captan); 298-00-0 (Parathion-methyl); 330-54-1 (Diuron); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet); 959-98-8 (a-Endosulfan); 1582-09-8 (Trifluralin); 1689-84-5 (Bromoxynil); 1912-24-9 (Atrazine); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos-ethyl); 7786-34-7 (Mevinphos); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 33213-65-9 (b-Endosulfan); 34123-59-6 (Isoproturon); 36734-19-7 (Iprodione); 43121-43-3 (Triadimefon); 51218-45-2 (Metolachlor); 83164-33-4 (Diflufenican); 107534-96-3 (Tebuconazole) Role: ANT (Analyte), ANST (Analytical study) (pesticides detn. in air by ion-trap gas chromatog.-tandem mass spectrometry with or without derivatization with pentafluorobenzylbromide); 1765-40-8 (Pentafluorobenzylbromide) Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (pesticides detn. in air by ion-trap gas chromatog.-tandem mass spectrometry with or without derivatization with pentafluorobenzylbromide)
Citations: 1) Albanis, T; Sci Total Environ 1986, 58, 243
Citations: 2) Charreteur, C; Analusis 1997, 25, 211
Citations: 3) Coburn, J; J Assoc Offic Anal Chem 1976, 59(1), 188
Citations: 4) Durand, G; Anal Chim Acta 1991, 243, 259
Citations: 5) Aston, L; J Environ Qual 1997, 26, 1483
Citations: 6) Bidleman, T; Atmos Environ 1982, 16, 1099
Citations: 7) Millet, M; Environ Sci Pollut Res 1997, 4(3), 172
Citations: 8) Sanusi, A; Analusis 1997, 25, 302
Citations: 9) Sanusi, A; Sci Total Environ 2000, 263(1-3), 263
Citations: 10) Scheyer, A; Proceedings of the XII Symposium of Pesticide Chemistry 2003, 811
Citations: 11) Watanabe, T; Bull Environ Contam Toxicol 1998, 60, 669
Citations: 12) Glotfelty, D; J Agric Food Chem 1984, 32, 638
Citations: 13) Glotfelty, D; J Agric Food Chem 1989, 37, 546
Citations: 14) Briand, O; Fresenius Environ Bull 2003, 12(7), 675
Citations: 15) Durand, G; Anal Chim Acta 1991, 243, 259
Citations: 16) Seiber, J; Environ Sci Technol 1993, 27, 2236
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Citations: 31) Millet, M; Arch Environ Contam Toxicol 1996, 31, 543
Citations: 32) Boucharat, C; Talanta 1998, 47, 311
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Citations: 34) Poulard, M; Proceeding of the \"XXXieme congres du Groupe Francais des Pesticides\" 2000, 21
Citations: 35) Bidleman, T; Environ Sci Technol 1988, 22, 361 A multiresidue method using gas chromatog. coupled to ion-trap tandem mass spectrometry (MS/MS) was developed for the anal. of 27 pesticides, commonly used in Alsace, in atm. samples (particle and gas phases). As pesticides are expected to be present at very low concns. and in a complex matrix, the anal.

method used was both highly selective and sensitive. These two properties were obtained by assocg. chromatog. with ion-trap MS/MS. To develop this method, anal. of electron impact in single MS was 1st conducted to choose the parent ions of the pesticides studied. Among the 27 pesticides analyzed, seven of them require a derivatization step. This was the case of some ureas (chlorotoluron, diuron and isoproturon), phenoxy acids (2,4-dichlorophenoxyacetic acid, 4-chloro-2-methylphenoxyacetic acid and mecoprop) and of bromoxynil. The derivatization was performed with success with pentafluorobenzylbromide. Then, a MS/MS method was optimized by parameters such as the radio frequency storage level and the collision-induced dissocn. excitation voltage. Finally, a last step enabled the development of two calibrating programs based on the quantification of daughter ions for the 20 pesticides analyzed directly (run 1) and for the seven pesticides which needed derivatization (run 2). With this anal. procedure, the detection limits varied between 2.5 and 1,250 pg m-3 depending on the compds. studied. This method was tested with success for atm. samples collected in Strasbourg (France) during intensive pesticide treatment in 2002. [on SciFinder (R)] 1618-2642 pesticide/ detn/ air/ gas/ chromatog/ tandem/ mass/ spectrometry

1138. Scheyer, Anne, Morville, Stephane, Mirabel, Philippe, and Millet, Maurice (Pesticides analysed in rainwater in Alsace region (Eastern France): Comparison between urban and rural sites. *Atmospheric Environment* In Press, Corrected Proof: 1019.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Current-used pesticides commonly applied in Alsace region (Eastern France) on diverse crops (maize, vineyard, vegetables, etc.) were analysed, together with Lindane, in rainwater between January 2002 and June 2003 simultaneously on two sites situated in a typical rural (Erstein, France) and urban area (Strasbourg, France). Rainwater samples were collected on a weekly basis by using two automatic wet only collectors associated with an open collector for the measurement of rainwater height. Pesticides were analysed by GC-MSMS and extracted from rainwater by SPME. Two runs were performed. The first one was performed by using a PDMS (100 [mu]m) fibre for pesticides where direct injection into GC is possible (alachlor, atrazine, azinphos-ethyl, azinphos-methyl, captan, chlorfenvinphos, dichlorvos, diflufenican, [alpha]- and [beta]-endosulfan, iprodione, lindane, metolachlor, mevinphos, parathion-methyl, phosalone, phosmet, tebuconazole, triadimefon and trifluralin). The second run was performed by using PDMS/DVB fibre and this run concerns pesticides where a preliminary derivatisation step with pentafluorobenzylbromide (PFBBr) is required for very low volatiles (bromoxynil,2,4-MCPA, MCPP and 2,4-D) or thermo labiles (chlorotoluron, diuron and isoproturon) pesticides. Results showed that the more concentrated pesticides detected were those used as herbicides in large quantities in Alsace region for maize crops (alachlor, metolachlor and atrazine). Maximum concentrations for these herbicides have been measured during intensive applications periods on maize crops following by rapid decrease immediately after use. For Alachlor, most important peaks have been observed between 21 and 28 April 2003 (3327 ng L-1 at Erstein and 5590 ng L-1 at Strasbourg). This is also the case for Metolachlor where most important peak was observed during the same week. Concentrations of pesticides measured out of application periods were very low for many pesticides and some others where never detected during this period. This is the case for diflufenican which was detected only during application. Two important peaks of concentrations were observed; a first one (101 ng L-1) in Erstein in November 2002 (4-11 November) and a second one (762 ng L-1) also in Erstein (28 April-15 May). The same behaviour can be seen for chlorfenvinphos and phosalone which have been detected, respectively, 2 and 4 times in Erstein and Strasbourg at high concentrations (28 April 2003-15 May 2003, 187 ng L-1 of phosalone and 157 ng L-1 of chlorfenvinphos in Erstein). MCPP, 2,4 MCPA and 2,4-D have been detected at high concentrations in rainwater but for the other pesticides very episodically and mainly during their use in agriculture. Maximal concentrations of MCPP and 2,4 MCPA have been measured in Erstein between 28 April and 15 May (904 and 746 ng L-1, respectively). Comparison between rural and urban sites showed that concentrations in rural areas are generally higher except for pesticides commonly applied in urban areas like Diuron. No seasonal phenomenon was observed for Diuron. This herbicide has been detected in practically all of the rainwater samples in Strasbourg (40/41) with a maximum of 1025 ng L-1 (16-23 September 2002) in 38 samples on 41 in Erstein with a maximum of 317 ng L-1 (15-23 October 2002). The total concentration of Diuron measured between 4 March 2002 and 20 July 2003 is of 4721 ng L-1 in Strasbourg and 5025 ng L-1 in Erstein. This result shows that wet deposition of Diuron in urban and rural sites was equivalent and can be explained by the "urban use" of this molecule together with its potential persistence. Pesticides/ Rainwater/ Urban and rural areas/ Temporal and geographical variations of concentrations http://www.sciencedirect.com/science/article/B6VH3-4NTBFP2-5/2/2f4afe86453c7c813be3a6f99befa41f

1139. Schierholz, I., Schafer, D., and Kolle, O. (2000). The Weiherbach Data Set: an Experimental Data Set for Pesticide Model Testing on the Field Scale. *Agricultural Water Management, 44 (1-3) pp. 43-61, 2000*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, MODELING.

ISSN: 0378-3774
Descriptors: Data set
Descriptors: Multidisciplinary measuring
Descriptors: Pesticide leaching
Descriptors: Solute transport in soil
Abstract: There are few consistent and comprehensive data sets for the calibration and verification of computer models of pesticide fate in agro-ecosystems. To partly close this gap the data base of the multidisciplinary Weiherbach research project was used to form a data set that is well suited for that purpose. It has been successfully used during the COST Action 66 model comparison. The Weiherbach research area is a small, intensively cultivated catchment in south-western Germany. The soils of the region are developed from loess and are strongly influenced by erosion. An important feature is the abundance of large macropores that cause preferential flow events. Field dissipation and field lysimeter studies with the herbicide isoproturon and the tracer KBr were conducted in a typical Calcaric Regosol for a late autumn as well as for a spring application scenario. For the lysimeter studies 10 undisturbed soil monoliths (0.45 m long, 0.3 m in diameter) from the same field were used to allow for an estimate of the spatial variability of solute transport. During the spring experiment, one half of the field plot and selected lysimeters were irrigated to simulate wet conditions with higher leaching potential. The Weiherbach data set comprehensively characterises the hydrological, agricultural and soil properties of the experimental sites (including site-specific degradation and sorption data for isoproturon) as well as the meteorological conditions during the experiments. In the field studies, depth profiles of isoproturon and tracer were measured at several dates whereas in the lysimeter studies the percolate was regularly analysed. A detailed description of the experimental results and the whole data set as it was used for the comparison of pesticide transport models within COST Action 66 will be given by Schierholz (1999). In the experiments both matrix and macropore flow occurred and the kind and amount of solute transport clearly depended on the precipitation (irrigation) conditions. The autumn application was followed by an unusually wet winter and represents a 'worst case' scenario with deep leaching of isoproturon. After the spring application there were about average meteorological conditions, but the irrigated variants again represent a 'worst case'. (C) 2000 Elsevier Science B.V.
14 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.10.4.9 CROP SCIENCE: Crop Protection: Chemical residues
Subfile: Plant Science

1140. Schiff, S. L. (Dissolved Organic Carbon Cycling in Forested Watersheds: a Carbon Isotope Approach. *Govt reports announcements & index (gra&i), issue 17, 1993*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: Dissolved organic carbon (DOC) is important in the acid-base chemistry of acid-sensitive freshwater systems; in the complexation, mobility, persistence, and toxicity of metals and other pollutants; and in lake carbon metabolism. Carbon isotopes are used to study the origin, transport, and fate of DOC in a softwater catchment in central Ontario. Precipitation, soil percolates, groundwaters, stream, beaver pond, lake waters, and lake sediment pore water were characterized chemically and isotopically. In addition to total DOC, isotopic measurements were made on the humic and fulvic DOC fractions. In Water Resources Research: Vol. 20, no. 12, 1990.
KEYWORDS: Watersheds
KEYWORDS: Foreign technology
KEYWORDS: Carbon cycle
KEYWORDS: Water pollution

1141. Schilter, B., Renwick, A. G., and Huggett, A. C (1996). Limits for pesticide residues in infant foods: a safety-based proposal. *Regulatory Toxicology and Pharmacology* 24: 126-140.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:36452
Chemical Abstracts Number: CAN 126:59074
Section Code: 17-3
Section Title: Food and Feed Chemistry
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Food (infant; proposed limits for pesticide residues in infant food); Toxicity (neurotoxicity; proposed limits for pesticide residues in infant food); Food contamination; Pesticides; Risk assessment; Standards (proposed limits for pesticide residues in infant food); Nerve (toxicity; proposed limits for pesticide residues in infant food)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion ethyl); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 86-50-0 (Azinphos methyl); 90-43-7 ([1,1'-Biphenyl]-2-ol); 91-53-2 (Ethoxyquin); 93-76-5 (2,4,5-T); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8; 298-00-0 (Parathion methyl); 301-12-2 (Oxydemeton methyl); 333-41-5 (Diazinon); 563-12-2 (Ethion); 594-07-0D (Dithiocarbamic acid); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2439-10-3 (Dodine); 2921-88-2 (Chlorpyrifos ethyl); 5598-13-0 (Chlorpyrifos methyl); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 13457-18-6 (Pyrazophos); 16672-87-0 (Ethefon); 18181-80-1 (Bromopropylate); 23135-22-0 (Oxamyl); 23564-05-8 (Thiophanate methyl); 26644-46-2 (Triforine); 29232-93-7 (Pirimiphos methyl); 29973-13-5 (Ethiofencarb); 32809-16-8 (Procymidone); 35367-38-5 (Diflubenzuron); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 41083-11-8 (Azocyclotin); 68359-37-5 (Cyfluthrin); 76738-62-0 (Paclobutrazol); 78587-05-0 (Hexythiazox); 79983-71-4 (Hexaconazole) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (proposed limits for pesticide residues in infant food) A review of safety procedures for regulating pesticide residues in food commodities demonstrated that max. residue levels established by national and international bodies may not be suitable for direct application to finished infant products. The authors developed a safety-based strategy specifically aimed at setting limits for pesticide residues in baby foods. The approach is based on the acceptable daily intake (ADI) together with the application, when necessary, of an addnl. uncertainty factor to account for the potential higher sensitivity of infants to toxicants. The need for this extra factor is dependent on the toxicol. information available and may be particularly important for pesticides with a neurotoxic potential. Using this strategy the authors evaluated safety-based residue limits for finished products based on a std. food intake pattern of a 4-mo-old

infant. For most of the pesticides examd. the estd. limits fell within a range which can be controlled through existing quality assurance systems. This scientific approach appears usable in practice and is intended as a basis for stimulating discussions aimed at evaluating the need for new limits to ensure the optimal quality of infant products with respect to pesticide safety. This assessment demonstrates that for a no. of pesticides there is a need for adequate developmental studies to provide assurance that the current ADI is appropriate for infants. A consequence may be the necessity for enhanced anal. sensitivity for the detn. of pesticide residues in infant foods which would be compatible with limits based on an infant-adjusted ADI. [on SciFinder (R)] 0273-2300 pesticide/ residue/ limit/ infant/ food/ neurotoxicity

1142. Schleyer, R., Fillibeck, J., Hammer, J., and Raffius, B. (Beeinflussung Der Grundwasserqualitaet Durch Deposition Anthropogener Organischer Stoffe Aus Der Atmosphaere. (Influences on Groundwater Quality by the Deposition of Organic Substances From the Atmosphere). *Govt reports announcements & index (gra&i), issue 15, 1997.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: Rain water, soil percolate (different depths) and ground water were sampled at 11 measuring stations and analyzed for organic compounds. In rain water trichloroacetic acid (TCA), 3-methyl-4-nitrophenol (3-M-4-NP) and 4-nitrophenol are the highest concentrated substances. Concentrations reach up to 3 nmol/l in open land, up to 5 nmol/l in beech woods and up to 10 nmol/l in spruce forestes. In the soil degradation processes occur. TCA is dehalogenated to dichloro- (DCA) and monochloroacetic acid (MCA) and decarboxylized to trichloromethane, respectively. 4-NP and 3-M-4-NP are mainly transformed to 2-nitrophenol (2-NP) and 4-methyl-2-nitrophenol (4-M-2-NP). These processes could be verified with a solid column experiment. The effects of these processes vary extremly from station to station. In ground water particularly the pedospheric degradation products occur (trichlorethan, 2-NP, MCA and DCA). Concentrations reach up to some nmol/l. (orig.). (Copyright (c) 1997 by FIZ. Citation no. 97:001717.)
KEYWORDS: Water pollution
KEYWORDS: Foreign technology

1143. Schleyer, R., Renner, I., and Muehlhausen, D. (Immissionsbelastungen - Konsequenzen Fuer Die Grundwasserqualitaet. (Airborne Emmissions - Consequences for Ground-Water Quality). *Govt reports announcements & index (gra&i), issue 14, 1992.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: Large amounts of organic substances are emitted into the atmosphere as a consequence of human activity. The primary emissions as well as their atmospheric reaction products reach the soil via precipitation and may endanger ground-water quality. At four measuring stations in woodland areas of the Federal Republic of Germany which are not influenced by industry and agriculture, samples of rainwater, percolate from the upper soil layer and of the ground water (mainly spring water) were taken at monthly intervals over a period of one year both in the open land and in spruce forests. In addition to numerous single compounds from different substance classes (chlorinated hydrocarbons, aromatic substances, phthalates, chlorinated carbonic acids, nitrophenols), AOX (organic halogen compounds adsorbable to activated carbon) were determined as a characteristic organic group parameter of anthropogenic exposure. Of special importance concerning ground-water quality are chlorinated acetic acids as reaction pr
KEYWORDS: Ground water
KEYWORDS: Water pollution
KEYWORDS: Foreign technology
KEYWORDS: Air water interactions

1144. Schmidt, C. W. (Debate Percolates Over Cafe Standards. *Environ health perspect. 2002, aug; 110(8):a466-8. [Environmental health perspectives]: Environ Health Perspect.*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

MESH HEADINGS: Air Pollution/*prevention &amp
MESH HEADINGS: control
MESH HEADINGS: Commerce
MESH HEADINGS: *Conservation of Natural Resources
MESH HEADINGS: *Consumer Participation
MESH HEADINGS: Environment
MESH HEADINGS: Equipment Design
MESH HEADINGS: Gasoline/*economics
MESH HEADINGS: Humans
MESH HEADINGS: *Motor Vehicles
MESH HEADINGS: Policy Making
MESH HEADINGS: Public Opinion
MESH HEADINGS: Safety
MESH HEADINGS: United States
LANGUAGE: eng

1145. Schmidt, Ulrike D. and Paradies, H. Hasko (1977). The structure of the [var epsilon]-subunit from the chloroplast coupling factor (CF1) studied by means of small angle X-ray scattering and inelastic light scattering. *Biochemical and Biophysical Research Communications* 78: 383-392.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The [var epsilon]-subunit from the chloroplast coupling factor (CF1) was purified on a BioGel A 0.5 m column, and the size, shape and radius of gyration were determined. The diffusion coefficient, D20, wo, was determined by means of inelastic light scattering and was found to be (11.3 +/- 0.05) x 10-7 cm2[middle dot]sec-1 and independent of pH and ionic strength. From the sedimentation coefficient (1.70S) and D20, wo we obtained a molecular weight of 11,900 with a partial specific volume of 0.740 +/- 0.003 ml [middle dot] g-1. The radius of gyration of [var epsilon] in 0.05 M TRIS-HCl, pH 7.0, was found to be 11.8 +/- 0.04 A, the volume 17.0 x 103 (A3) and the specific inner surface 0.19 A-1, indicating a spherical molecule with overall dimensions of D = 31.8 A with a given axial ratio of 1:1:2.4. The description of the [var epsilon]-subunit in solution as a prolate ellipsoid of revolution with half axes A = b = 12.7 A and C = 25.4 A was obtained from a comparison of the theoretical and the experimental scattering curves. The degree of hydration was determined to be 0.15 g H2O/g protein.
http://www.sciencedirect.com/science/article/B6WBK-4DMX97X-10K/2/365a47a83a2f7f9671b96d296cfa99b7

1146. Scholtz, M. T., Voldner, E., Van Heyst, B. J., McMillan, A. C., and Pattey, E (2002). A pesticide emission model (PEM) Part II: model evaluation. *Atmospheric Environment* 36: 5015-5024.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:757841
Chemical Abstracts Number: CAN 138:43552
Section Code: 59-2
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5, 19
Document Type: Journal
Language: written in English.
Index Terms: Soils (arable, volatilization from; pesticide emission model (PEM) evaluation and for pesticide volatilization rate estn.); Evaporation (of pesticides from soils; pesticide emission model (PEM) evaluation and for pesticide volatilization rate estn.); Air pollution; Environmental modeling (pesticide emission model (PEM) evaluation and for pesticide volatilization rate estn.); Pesticides (volatilization from soils; pesticide emission model (PEM) evaluation and for pesticide volatilization rate estn.); Crop (volatilization from; pesticide emission model (PEM) evaluation and for pesticide volatilization rate estn.)

CAS Registry Numbers: 1582-09-8 (Trifluralin); 2303-17-5 (Triallate) Role: NUU (Other use, unclassified), PEP (Physical, engineering or chemical process), POL (Pollutant), PYP (Physical process), OCCU (Occurrence), PROC (Process), USES (Uses) (pesticide emission model (PEM) evaluation and for pesticide volatilization rate estn.); 50-29-3 (Ddt); 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 76-44-8 (Heptachlor); 86-50-0 (Azinphosmethyl); 93-76-5 (2,4,5-T); 115-29-7 (Endosulfan); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 298-02-2 (Phorate); 309-00-2 (Aldrin); 319-84-6 (a-Hch); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 1563-66-2 (Carbofuran); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 2921-88-2 (Chlorpyrifos); 8001-35-2 (Toxaphene); 12789-03-6 (Chlordane); 16752-77-5 (Methomyl); 21609-90-5 (Leptophos) Role: PEP (Physical, engineering or chemical process), POL (Pollutant), PYP (Physical process), OCCU (Occurrence), PROC (Process) (pesticide emission model (PEM) evaluation and for pesticide volatilization rate estn.)
Citations: Chahuneau, F; Journal of Atmospheric and Oceanic Technology 1989, 6, 193
Citations: Desjardins, R; Advances in Bioclimatology 1991, 1
Citations: Jury, W; Journal of Environmental Quality 1983, 12(4), 558
Citations: Jury, W; Journal of Environmental Quality 1984, 13(4), 567
Citations: Jury, W; Journal of Environmental Quality 1984, 13(4), 573
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Citations: Munn, R; Descriptive Micrometeorology 1966, 26
Citations: Pattey, E; Boundary-Layer Meteorology 1993, 66, 341
Citations: Pattey, E; Agricultural Meteorology 1995, 76, 201
Citations: Pattey, E; Computers and Electronics in Agriculture 1996, 15, 303
Citations: Scholtz, M; Atmospheric Environment 2002, 36, 5011
Citations: Schuepp, P; Boundary-Layer Meteorology 1989, 50, 355
Citations: Suntio, L; Reviews of Environmental Contamination and Toxicology 1988, 103, 1
Citations: Wauchope, R; Reviews of Environmental Contamination and Toxicology 1992, 123, 1
Citations: Willis, G; Reviews of Environmental Contamination and Toxicology 1987, 100, 23 In the first part of the paper, the development of a numerical pesticide emission model (PEM) is described for predicting the volatilization of pesticides applied to agricultural soils and crops through soil incorporation, surface spraying, or in the furrow at the time of planting. In this paper the results of three steps toward the evaluation of PEM are reported. The evaluation involves: (i) verifying the numerical algorithms and computer code through comparison of PEM simulations with an available anal. soln. of the advection/diffusion equation for semi-volatile solutes in soil; (ii) comparing hourly heat, moisture and emission fluxes of trifluralin and triallate modeled by PEM with fluxes measured using the relaxed eddy-accumulation technique; and (iii) comparison of the PEM predictions of persistence half-life for 29 pesticides with the ranges of persistence found in the literature. The overall conclusion from this limited evaluation study is that PEM is a useful model for estg. the volatilization rates of pesticides from agricultural soils and crops. The lack of reliable ests. of chem. and photochem. degrdn. rates of pesticide on foliage, however, introduces large uncertainties in the ests. from any model of the volatilization of pesticide that impacts the canopy. [on SciFinder (R)] 1352-2310 pesticide/ emission/ model/ PEM/ volatilization/ rate/ estn/ soil

1147. Schrumpf, Marion, Axmacher, Jan C., Zech, Wolfgang, Lehmann, Johannes, and Lyaruu, Herbert V. C. (2007). Long-term effects of rainforest disturbance on the nutrient composition of throughfall, organic layer percolate and soil solution at Mt. Kilimanjaro. *Science of The Total Environment* 376: 241-254.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

At the lower parts of the forest belt at Mt. Kilimanjaro, selective logging has led to a mosaic of mature forest, old secondary forests (~ 60 years), and old clearings (~ 10 years) covered by shrub vegetation. These variations in the vegetation are reflected by differences in nutrient leaching from the canopy and in both amount and quality of litter reaching the ground, thereby also influencing mineralization rates and the composition of seepage water in litter percolate and soil solution. The aim of this study was to investigate how above- and belowground nutrient dynamics vary between

regeneration stages, and if forest regeneration at the clearings is hampered by a deterioration of abiotic site conditions. K, Mg, Ca, Na and N compounds were analysed in rainfall, throughfall, organic layer percolate and the soil solution to a depth of 1.00 m at three clearings, three secondary forest and four mature forest sites. Element fluxes via throughfall showed only small variations among regeneration stages except for K and NO3-N. With 57-83 kg ha- 1 a- 1and 2.6-4.1 kg ha- 1 a- 1 respectively, K and NO3-N fluxes via throughfall were significantly higher at the clearings than at the mature forest sites (32-37 and 0.7-1.0 kg ha- 1 a- 1 for K and NO3-N). In organic layer percolate and in soil solution at 0.15-m soil depth, concentrations of K, Mg, Ca and N were highest at the clearings. In the organic layer percolate, median K concentrations were e.g. 7.4 mg l- 1 for the clearings but only 1.4 mg l- 1 for the mature forests, and for NO3-N, median concentrations were 3.1 mg l- 1 for the clearings but only 0.92 mg l- 1 for the mature forest sites. Still, differences in annual means between clearings and mature forests were not always significant due to a high variability within the clearings. With the exception of NO3-N, belowground nutrient concentrations in secondary forests ranged between concentrations in mature forests and clearings. Vegetation type-specific differences decreased with increasing soil depths in the soil solution. Overall, the opening of the forest led to a higher spatial and seasonal variation of nutrient concentrations in the seepage water. These results suggest differences in both mineralization rates and in nutrient budgeting at different regeneration stages. Since nutrient availability was highest at the clearings and no compaction of the soil was observed, deterioration of soil properties did not seem to be the main reason for the impeded regeneration on the clearings.
Litter percolate/ Montane rainforest/ Nutrient cycle/ Regeneration/ Soil solution/ Throughfall
http://www.sciencedirect.com/science/article/B6V78-4N5CSHX-2/2/da277960afc7e4d903c724b3c710eea5

1148. Schulten, H. R. and Sun, Si En (1981). High-resolution field desorption mass spectrometry. Part IX. Field desorption mass spectrometry of standard organophosphorus pesticides and their identification in waste water. *International Journal of Environmental Analytical Chemistry* 10: 247-63.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1982:129428
Chemical Abstracts Number: CAN 96:129428
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 60, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus, detn. of, in wastewater, high-resoln. field desorption mass spectrometry in)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 60-51-5; 62-73-7; 78-34-2; 86-50-0; 121-75-5; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 333-41-5; 563-12-2; 732-11-6; 778-34-7; 962-58-3; 2310-17-0; 3761-41-9; 10265-92-6 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in wastewater, high-resoln. field desorption mass spectrometry in); 7732-18-5 Role: ANST (Analytical study) (organophosphorus pesticide detn. in waste-, high-resoln. field desorption mass spectrometry in) The characteristic behavior of 4 groups of commonly used organophosphorus pesticides such as phosphates, phosphorothionates, phosphorothiolates, and phosphorodithioates was investigated by field-desorption mass spectrometry. Their spectra show mol. ions of high abundance and characteristic fragmentation patterns. The phosphates and phosphorothionates usually show a-cleavage with respect to the P atom with and without proton transfer. In contrast, the phosphorothiolates and phosphorodithioates usually show b-cleavage from the P atom. Fragments with the charge retention on the P moiety were also obsd. in the field desorption mass spectra, although their abundances were low. Analyses of std. mixts. as well as some wastewater samples indicate that field-desorption mass spectrometry is suitable for the identification of organophosphorus pesticides at nanogram level in mixts. and environmental samples without preliminary sepn. and purifn. [on SciFinder (R)] 0306-7319 organophosphorus/

pesticide/ detn/ wastewater

1149. Schutzmann, R. L. and Barthel, William F (1969). Pesticide residues. Indoxyl acetate spray reagent for fluorogenic detection of cholinesterase inhibitors in environmental samples. *Journal - Association of Official Analytical Chemists* 52: 151-6.
Chem Codes : Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1969:56345
Chemical Abstracts Number: CAN 70:56345
Section Code: 17
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Plant tissue; Soils (cholinesterase inhibiting pesticide detection in); Pesticides (detection of, in biol. materials)
CAS Registry Numbers: 7732-18-5 Role: ANST (Analytical study) (cholinesterase inhibiting pesticide detection in); 56-38-2; 60-51-5; 63-25-2; 86-50-0; 121-75-5; 137-26-8; 150-68-5; 298-00-0; 298-02-2; 299-84-3; 311-45-5; 315-18-4; 333-41-5; 563-12-2; 732-11-6; 786-19-6; 950-35-6; 953-17-3; 961-22-8; 962-58-3; 1634-78-2; 2439-01-2; 2600-69-3; 3735-33-9; 3983-45-7; 7173-84-4; 7332-32-3; 14484-64-1; 22756-17-8 Role: ANT (Analyte), ANST (Analytical study) (detection of, in biol. materials) A cholinesterase inhibition method to detect thionophosphates and their O analogs by 2-dimensional thin-layer chromatog. is described. Environmental samples are cleaned up on Florex columns and spotted on silica gel thin-layer plates. Plates are developed in solvent mixts. of opposite polarity, then sprayed with an enzyme soln. and indoxyl acetate. Submicrogram sensitivity is achieved by fluorogenic and chromogenic reaction. Some compds. give characteristic colored reaction products. [on SciFinder (R)] 0004-5756 anticholinesterases/ detection;/ pesticides/ residues/ detn;/ residues/ pesticides/ detn;/ reagent/ anticholinesterases;/ indoxyl/ acetate/ reagent;/ chromatog/ pesticides;/ thin/ layer/ chromatog/ pesticides

1150. Schwela, D. H. and Krause, G. Hm (1989). Chernoff-Flury Faces: a Statistical Means for Representing Multivariate Response Parameters of Air Pollution Induced Injury on Plants. *Environ pollut* 61: 59-76.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. To evaluate the effects of dry and wet deposition on forest trees (Picea abies (L.) Karst.), the LIS-Essen is operating an Open-Top Chamber Field Station within an area where novel forest decline has been prevalent since 1982. Chambers are ventilated with either ambient or charcoal-filtered air and receive either natural or artificial rain, the latter being prepared by natural rain and distilled water in ratio 1:10. Besides deposition data, acquired above and below the tree crowns as well as via lysimeters of soil percolates, various parameters describing vitality of trees are measured. To obtain a persuading representation of total parameters and their interdependencies, a multivariate graphical cluster analysis has been performed by use of Chernoff-Flury faces. Interdependencies of vitality parameters are more easily recognizable in this multivariate picture than in usually applies binary correlation diagrams.
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: BIOPHYSICS

MESH HEADINGS: CYBERNETICS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: TREES
MESH HEADINGS: ENVIRONMENTAL POLLUTION
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: WEATHER
MESH HEADINGS: PLANTS
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biophysics-Biocybernetics (1972-)
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Forestry and Forest Products
KEYWORDS: Phytopathology-Nonparasitic Diseases
KEYWORDS: Coniferopsida
LANGUAGE: eng

1151. Schwesig, D., Ilgen, G., and Matzner, E. (1999). Mercury and Methylmercury in Upland and Wetland Acid Forest Soils of a Watershed in Ne-Bavaria, Germany. *Water air and soil pollution* 113: 141-154.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Mercury (Hg) and methylmercury (CH3Hg+) are global pollutants, but little information is available on their distribution and mobility in soils and catchments of Central Europe. The objective of this study was to investigate the pools and mobility of Hg and CH3Hg+ in different forest soils. Upland and wetland forest soils, soil solutions and runoff were sampled. In upland soils the highest contents of total-Hg were found in the Oh layer of the forest floor (> 400 ng g-1) and the storage of non geo tter layer of the forest floor and in the Bsv horizon. The CH3Hg+ content of the wetland soils was generally much higher in comparison with upland soils. CH3Hg+ in solution was found in the forest floor percolates of upland soils and in wetland soils, but not in soil solutions from mineral soil horizons. Gaseous losses of Hg as well as methylation of Hg are likely in wetland soils. The latter might be highly relevant for CH3Hg+ levels in runoff.
MESH HEADINGS: MINERALS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
LANGUAGE: eng

1152. Schwesig, D. and Matzner, E. (2001). Dynamics of Mercury and Methylmercury in Forest Floor and Runoff of a Forested Watershed in Central Europe. *Biogeochemistry [Biogeochemistry]. Vol. 53, no. 2, pp. 181-200. Apr 2001.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0168-2563
Descriptors: Article Subject Terms: Mercury
Descriptors: Methyl mercury
Descriptors: Pollution effects
Descriptors: Stormwater runoff
Descriptors: Detrital deposits
Descriptors: Biogeochemical cycle
Descriptors: Biogeochemistry
Descriptors: Forest Watersheds
Descriptors: Coniferous Forests
Descriptors: Throughfall
Descriptors: Litter
Descriptors: Runoff
Descriptors: Percolating Water
Descriptors: Dynamics
Descriptors: Article Geographic Terms: Europe
Abstract: Forested watersheds are an important part of the terrestrial mercury and methylmercury cycle, and a link between the atmospheric and aquatic environment. This study was conducted to determine the contribution of the forest floor to the pools and fluxes of total Hg (Hg sub(total)) and methylmercury (MeHg) in a forested catchment, and to identify factors influencing the mobility of both compounds. Throughfall deposition, litterfall, runoff and fluxes with forest floor percolate of Hg sub(total) and MeHg were sampled during one year in a coniferous catchment in Germany. Total deposition of Hg sub(total) was 552 mg ha sub(-1) a sub(-1) with litterfall contributing one third. Nearly 60% of the total input of Hg sub(total) reached the mineral soil with the forest floor percolate, but less than half of this fraction was found in the runoff of the catchment. Total deposition of MeHg was 2.6 mg ha sub(-1) a sub(-1), with litterfall as the dominating pathway. Only 19% of the MeHg deposition was discharged from the forest floor, but the flux of MeHg with runoff was nearly twice as high. Only few correlations with other solution parameters were found. Fluxes of both compounds with forest floor percolates depended mainly on water fluxes, which was not true for the runoff. The forest floor of the upland soil is an effective sink for MeHg, but not for Hg sub(total). Differences in the mobility of both compounds in the forest floor disappeared at the catchment scale, probably because other processes (i.e. Hg sub(total) immobilization and MeHg formation) dominated.
Publisher: Kluwer Academic Publishers
Language: English
English
Publication Type: Journal Article
Classification: Q1 01463 Habitat community studies
Classification: Q5 01503 Characteristics, behavior and fate
Classification: SW 0880 Chemical processes
Subfile: ASFA 1: Biological Sciences & Living Resources; Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

1153. Scott Angle, J. (1990). Nitrate leaching losses from soybeans (Glycine max L. Merr.). *Agriculture, Ecosystems & Environment* 31: 91-97.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

The leaching of nitrate-nitrogen (NO3---N) out of the root zone of soybeans (Glycine max L. Merr.) was monitored over a 3-year period. Soil percolate was collected montly and soil cores (2.1 m depth) were collected in the spring and fall of each year from plots cultivated using either conventional or no-till practices. Nitrate-N concentrations in percolate over the 3-year period averaged 13.7 and 14.4 mg l-1 from the conventional and no-till plots respectively. No significant tillage effect was noted. Highest percolate NO3---N concentrations were observed during the mid-winter months when rainfall was high and crop residues were being mineralized. In the fall of each year, highest soil NO3---N concentrations were found near the soil surface. In the spring, highest

soil NO3---N concentrations were usually found at a depth of 0.9-1.2 m, indicating that the mineralized N was leaching through the soil profile. These data suggest that only moderate quantities of NO3---N leach from the root zone of soybeans.
http://www.sciencedirect.com/science/article/B6T3Y-48Y1W0T-DM/2/6f6ee1bfbda063e1635179c733412031

1154. Sedykh, A. S., Abelentseva, G. M., Popov, P. V., Zhuravleva, V. I., and Ivanova, G. M. (Preparation for Controlling Bothynoderes Punctiventris. *Khim. Sel'sk. Khoz. (2): 59-63 1978 (8 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. Preparations which are effective in the control of Bothynoderes punctiventris are described, and their oral LD50 values in rats are presented. These preparations include fenthion (LD50 180-310 mg/kg of body weight), phoxim (1,000-8,800 mg/kg), SAN 155 (195-310 mg/kg), diazinon (75-175 mg/kg), fenitrothion (250-900 mg/kg), cartap (padan) (250-380 mg/kg), methylquinalphos (SAN 52056) (900 mg/kg), metaphos (methyl parathion) (9-42 mg/kg), TsGA 19795 (300 mg/kg), dursban (chlorpyrifos) (92-270 mg/kg), pyrimiphos-methyl (2,050 mg/kg), TsGA 18809 (1,180 mg/kg), cyanox (cyanophos) (245-455 mg/kg), endosulfan (30-110 mg/kg), despyrol (240-325 mg/kg), phthalophos (150-300 mg/kg), benzophosphate (85-180 mg/kg), heptenephos (117 mg/kg), triazophos (82 mg/kg), ethaphos (350 mg/kg), heptachlor (40-500 mg/kg), heterophos (295 mg/kg), dilor (5,000-9,000 mg/kg), TsGA 15320 (358 mg/kg), dimethoate (100-230 mg/kg), polychloropinene (170-310 mg/kg), propoxur (80-175 mg/kg), plictran (cyhexatin) (180-820 mg/kg), trichlorfon (235-900 mg/kg), tetrachlorvinphos (1,900-5,000 mg/kg), carbaryl (310-985 mg/kg), acephate (orthene) (865-945 mg/kg) and amiphos (DAEP) (405 mg/kg).
LANGUAGE: rus

1155. Sedykh, A. S., Popov, P. V., Abelentseva, G. M., Shapovalova, G. K., and Ivanova, G. B. (Sensitivity of Biological and Thin-Layer Chromatographic Methods of Determining Pesticide Residues. *Probl. Anal. Khim.2: 130-135* 1972.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB The biological method, using Calandra orysae, Drosophila melanogaster, and Culex pipiens molestus, was compared with thin-layer chromatographic methods for the determination of a variety of pesticide residues. The mosquito imago was most sensitive to the pesticides studied, permitting detection of quantities in the order of magnitude of 0. 00003 to 5 mg/l. The thin-layer chromatographic method, using a silica gel layer and bromophenol blue with silver nitrate and possibly acetic acid for visualization, was more than 100 times less sensitive than the gnat imago test for the detection of methyl ethyl parathion, fenitrothion, methyl parathion, malathion, phorate, trichlorfon, and dichlorvos, and 63, 19, 17, and 18 times less sensitive for phosmet, methylmercaptophos, phosalone, and carbaryl. The two methods were practically equivalent in the detection of vamidothion, dimethoate, and formothion. While the gnat imago test lacks specificity, it is more suitable for determination of the overall toxicity of the original active agent and its metabolites than the thin-layer chromatographic method. The biological method can be applied to the determination of pesticide residues in extracts from water, soil, plants, and animal tissues.
LANGUAGE: rus

1156. Sekine, Katsuhisa, Torii, Nobue, Kuroda, Chihiro, and Asami, Koji (2002). Calculation of dielectric spectra of suspensions of rod-shaped cells using boundary element method. *Bioelectrochemistry* 57: 83-87.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The boundary element method (BEM) has been applied to the calculation of dielectric spectra of suspensions of rod-shaped cells using two kinds of models: model-R consisting of a cylinder and two hemispheres and model-PU of prolate spheroid shape. Both models have an insulating shell phase of a uniform thickness. The calculations were compared with those using a conventional

spheroidal model with a confocal shell (model-PC) and previous observations on rod-shaped yeast cells. The differences among the three models were not considerable and all the models succeeded in interpreting the observed data on yeast cells. Boundary element method/ Complex permittivity/ Dielectric relaxation/ Interfacial polarization/ Simulation
http://www.sciencedirect.com/science/article/B6W72-44YWJYD-1/2/f8e6301352c155b13ce10453f1ebfc88

1157. Sekine, Katsuhisa, Watanabe, Yoko, Hara, Saori, and Asami, Koji (2005). Boundary-element calculations for dielectric behavior of doublet-shaped cells. *Biochimica et Biophysica Acta (BBA) - General Subjects* 1721: 130-138.
Chem Codes: Chemical of Concern: PSM Rejection Code: YEAST, MODELING.

In order to simulate dielectric relaxation spectra (DRS) of budding yeast cells (Saccharomyces cerevisiae) in suspension, the complex polarization factor (Clausius-Mossotti factor) [beta] for a single cell and the complex permittivity of a cell suspension [epsilon]sus* were calculated with a doublet-shaped model (model RD), in which two spheres were connected with a part of a ring torus, using the boundary element method. The [beta] values were represented by a diagonal tensor consisting of components [beta]z parallel to the rotation axis (z axis) and [beta]h in a plane (h plane) perpendicular to the axis. The [epsilon]sus* values were calculated from the complex permittivity of the suspending medium [epsilon]a* and the components of [beta]. The calculation was compared with that of a conventional prolate spheroid model (model CP). It was found that model CP could be used as a first approximation to model RD. However, differences existed in [beta]z between models RD and CP; [beta]z showed three relaxation terms in the case of model RD in contrast with two terms in model CP. Narrowing the junction between the two spheres in model RD markedly decreased the characteristic frequency of one of the relaxation terms in [beta]z. This suggests that the structure of the junction can be estimated from DRS. Effects of the shape change from model RD to a two-sphere model (model RD without the junction) were also examined. The behavior of [beta]z in the two-sphere model, the relaxation intensity of which was much lower than model RD, was quite similar to that in a single-sphere model. These simulations were consistent with the experimental observations of the dielectric behavior of the yeast cells during cell cycle progression. Clausius-Mossotti factor/ Complex permittivity/ Dielectric relaxation/ Interfacial polarization/ Saccharomyces cerevisiae/ Simulation
http://www.sciencedirect.com/science/article/B6T1W-4DNRD2W-1/2/13e273e655ddd19aba7a34e0653d97e5

1158. Selby, Thomas Paul and Sun, King-Mo (20020425). Insecticidal 1,8-naphthalenedicarboxamides and their preparation, use, and compositions. 110 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:314898
Chemical Abstracts Number: CAN 136:320814
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 28
Coden: PIXXD2
Index Terms: Eubacteria; Fungi; Virus (entomopathogenic; in compns. with insecticidal 1,8-naphthalenedicarboxamides); Acaricides; Bacillus thuringiensis; Baculoviridae; Nematocides (in compns. with insecticidal 1,8-naphthalenedicarboxamides); Invertebrata (insecticidal 1,8-naphthalenedicarboxamides and their compns. for control of); Insecticides (insecticidal 1,8-naphthalenedicarboxamides and their prepn., use, and compns.); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, Bacillus thuringiensis; in compns. with insecticidal 1,8-naphthalenedicarboxamides)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-38-2 (>,Parathion); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 83-79-4 (Rotenone); 86-50-0 (Azinphosmethyl); 115-29-7 (Endosulfan);

115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathionmethyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifosmethyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (>,Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 37273-91-9 (Metaldehyde); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (>,Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (>,Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (>,Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 86479-06-3 (Hexaflumuron); 91465-08-6; 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Taufluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (in compns. with insecticidal 1,8-naphthalenedicarboxamides); 414864-09-8; 414864-10-1; 414864-11-2; 414864-12-3; 414864-13-4; 414864-14-5; 414864-15-6; 414864-16-7; 414864-17-8; 414864-18-9; 414864-19-0; 414864-20-3; 414864-21-4; 414864-22-5; 414864-23-6; 414864-24-7; 414864-25-8; 414864-26-9; 414864-27-0; 414864-28-1; 414864-29-2; 414864-30-5; 414864-31-6; 414864-32-7; 414864-33-8; 414864-34-9; 414864-35-0; 414864-37-2; 414864-39-4; 414864-43-0; 414864-44-1; 414864-45-2; 414864-46-3; 414864-47-4; 414864-48-5; 414864-49-6; 414864-50-9; 414864-51-0; 414864-52-1; 414864-53-2; 414864-54-3; 414864-56-5; 414864-57-6; 414864-58-7; 414864-59-8; 414864-60-1; 414864-61-2; 414864-62-3; 414864-63-4; 414864-64-5; 414864-65-6; 414864-66-7; 414864-67-8; 414864-68-9; 414864-69-0; 414864-70-3; 414864-71-4; 414864-72-5; 414864-73-6; 414864-74-7; 414864-75-8; 414864-76-9; 414864-77-0; 414864-78-1; 414864-79-2; 414864-80-5; 414864-81-6; 414864-82-7; 414864-83-8; 414864-84-9; 414864-85-0; 414864-86-1; 414864-87-2; 414864-88-3; 414864-89-4; 414864-90-7; 414864-91-8; 414864-92-9; 414864-93-0; 414864-95-2; 414864-96-3; 414864-97-4; 414864-98-5; 414864-99-6; 414865-00-2; 414865-01-3; 414865-02-4; 414865-03-5; 414865-04-6; 414865-05-7; 414865-06-8; 414865-07-9; 414865-08-0; 414865-09-1; 414865-10-4; 414865-11-5; 414865-12-6; 414865-13-7; 414865-14-8; 414865-15-9; 414865-16-0; 414865-17-1; 414865-18-2; 414865-19-3; 414865-20-6; 414865-21-7; 414865-22-8; 414865-23-9; 414865-24-0; 414865-25-1; 414865-26-2; 414865-27-3; 414865-28-4; 414865-29-5; 414865-31-9; 414865-32-0; 414865-33-1; 414865-34-2; 414865-35-3; 414865-41-1; 414865-42-2; 414866-27-6 Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal 1,8-naphthalenedicarboxamides); 414864-08-7P; 414865-30-8P; 414866-28-7P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (prepn. of insecticidal 1,8-naphthalenedicarboxamides); 74-89-5 (Methylamine); 75-36-5 (Acetyl chloride); 81-84-5 (1,8-Naphthalic anhydride); 110-86-1 (Pyridine); 288-32-4 (Imidazole); 407-25-0 (Trifluoroacetic anhydride); 1003-98-1 (2-Bromo-4-fluoroaniline); 2216-13-9; 2942-58-7 (Diethyl cyanophosphonate); 5271-67-0 (2-Thiophenecarboxylic acid chloride) Role: RCT (Reactant),

RACT (Reactant or reagent) (prepn. of insecticidal 1,8-naphthalenedicarboxamides); 414865-36-4P; 414865-37-5P; 414865-38-6P; 414865-40-0P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of insecticidal 1,8-naphthalenedicarboxamides)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2000-240890
Priority Application Date: 20001017 Compds. I and II (Markush included) are prepd. as insecticides. The compds. I and II and their N-oxides and agriculturally suitable salts are useful for controlling invertebrate pests in compns. comprising at least one of a surfactant, a solid diluent or a liq. diluent, and, optionally, at least one addnl. biol. active compd. or agent selected from arthropodicides of the group consisting of pyrethroids, carbamates, neonicotinoids, neuronal sodium channel blockers, insecticidal macrocyclic lactones, g-aminobutyric acid (GABA) antagonist,s insecticidal urea,s and juvenile hormone mimics. [on SciFinder (R)] C07C237-00. naphthalenedicarboxamide/ insecticide/ prepn

1159. Selvadurai, A. P. S. (2003). Contaminant Migration From an Axisymmetric Source in a Porous Medium. *Water Resources Research [Water Resour. Res.]. Vol. 39, no. 8, [np]. Aug 2003.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, MODELING.

ISSN: 0043-1397
Descriptors: Article Subject Terms: Advection
Descriptors: Boundary Conditions
Descriptors: Contamination
Descriptors: Fate of Pollutants
Descriptors: Groundwater Movement
Descriptors: Groundwater Pollution
Descriptors: Groundwater flow
Descriptors: Hydraulics
Descriptors: Mathematical Studies
Descriptors: Model Studies
Descriptors: Path of Pollutants
Descriptors: Pollution (Groundwater)
Descriptors: Pollution dispersion
Descriptors: Porous Media
Descriptors: Porous media
Descriptors: Solute Transport
Descriptors: Solutes
Descriptors: Water pollution
Descriptors: Water resources
Abstract: This paper examines the problem of the nonreactive advective transport of a contaminant that is introduced at the boundary of a three-dimensional cavity contained in a fluid-saturated nondeformable porous medium of infinite extent. The advective Darcy flow is caused by a hydraulic potential maintained at a constant value at the boundary of the three-dimensional cavity. In order to develop a generalized solution to the problem the three-dimensional cavity region is modeled as having either a prolate or an oblate shape. Analytical results are developed for the time- and space-dependent distribution of contaminant concentration in the porous medium, which can also exhibit natural attenuation. The exact closed-form analytical results are also capable of providing solutions to advective transport problems related to spherical, flat disc-shaped and

elongated needle-shaped cavities.
Publication date refers to online version.
Publisher: American Geophysical Union, 2000 Florida Ave., N.W. Washington DC 20009 USA, [mailto:service@agu.org], [URL:http://www.agu.org]
Other numbers: Citation No. 1203
DOI: 10.1029/2002WR001442
Language: English
English
Publication Type: Journal Article
Classification: SW 3020 Sources and fate of pollution
Classification: AQ 00002 Water Quality
Classification: P 2000 FRESHWATER POLLUTION
Classification: Q5 01503 Characteristics, behavior and fate
Classification: EE 40 Water Pollution: Monitoring, Control & Remediation
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Environmental Engineering Abstracts; Pollution Abstracts; Water Resources Abstracts; Aqualine Abstracts

1160. Senn, Robert, Maienfisch, Peter, and Wyss, Peter (19971106). Synergistic insecticidal and acaricidal compositions. 41 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:740085
Chemical Abstracts Number: CAN 128:11112
Section Code: 5-2
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Bacillus subtilis; Fungi; Nematode; Plant; Virus (insecticidal and acaricidal, mixts. with oxadiazine derivs.; synergistic insecticidal and acaricidal compns.); Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (insecticidal and acaricidal, mixts. with oxadiazine derivs.; synergistic insecticidal and acaricidal compns.); Acaricides; Insecticides (synergistic; oxadiazine derivs.-contg. compns.)
CAS Registry Numbers: 149877-41-8D (D 2341) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (D 2341; synergistic insecticidal and acaricidal compns.); 52-68-6D; 55-38-9D (Fenthion); 56-38-2D (Parathion); 60-51-5D (Dimethoate); 63-25-2D (Carbaryl); 78-34-2D (Dioxathion); 86-50-0D (Azinphos M); 97-17-6D (Dichlofenthion); 108-62-3D (Metaldehyde); 114-26-1D; 115-29-7D (Endosulfan); 116-06-3D (Aldicarb); 119-12-0D (Pyridafenthion); 121-75-5D (Malathion); 122-14-5D (Fenitrothion); 126-75-0D (Demeton S); 297-97-2D (Thionazin); 298-00-0D (Parathion-methyl); 298-02-2D (Phorate); 300-76-5D (Naled); 301-12-2D (Oxydemeton M); 563-12-2D (Diethion); 608-73-1D; 732-11-6D (Phosmet); 780-11-0D (Terbam); 786-19-6D (Carbophenothion); 919-86-8D (Demeton-S-methyl); 944-22-9D (Fonophos); 1113-02-6D (Omethoate); 1129-41-5D (Metolcarb); 1563-66-2D (Carbofuran); 2032-65-7D (Methiocarb); 2274-67-1D (Dimethylvinphos); 2275-18-5D (Prothoate); 2275-23-2D (Vamidothion); 2310-17-0D (Phosalone); 2425-10-7D (Xylylcarb); 2540-82-1D (Formothion); 2595-54-2D (Mecarbam); 2597-03-7D (Phenthoate); 2631-37-0D (Promecarb); 2631-40-5D (Isoprocarb); 2636-26-2D (Cyanophos); 2642-71-9D (Azinphos A); 2655-14-3D (XMC); 2674-91-1D (Oxydeprofos); 2921-88-2D (Chloropyrifos); 3383-96-8D (Temephos); 3689-24-5D (Sulfotep); 3761-41-9D (Mesulfenfos); 3766-81-2D (Fenobucarb); 3811-49-2D (Salithion); 4824-78-6D; 7292-16-2D (Propaphos); 7786-34-7D (Mevinphos); 8022-00-2D (Demeton M); 8065-36-9D (Bufencarb); 10265-92-6D (Methamidophos); 10453-56-2D (cis-Resmethrin); 12407-86-2D (Trimethacarb); 13071-79-9D (Terbufos); 13121-70-5D (Cyhexatin); 13194-48-4D (Ethoprophos); 13356-08-6D (Fenbutatin oxide); 14816-18-3D (Phoxim); 15263-53-3D (Cartap); 16752-77-5D (Methomyl); 17109-49-8D (Edifenphos); 17606-31-4D (Bensultap); 18854-01-8D (Isoxathion); 20425-39-2D (Pyresmethrin); 22224-92-6D (Fenamiphos); 22248-79-9D; 23103-98-2D (Pirimicarb); 23135-22-0D (Oxamyl); 23505-41-1D (Pirimiphos A); 23526-02-5D (Thuringiensin); 23560-59-0D

(Heptenophos); 24017-47-8D (Triazophos); 24934-91-6D; 25311-71-1D (Isofenphos); 26087-47-8D (Iprobenfos); 28249-77-6D (Benthiocarb); 29232-93-7D; 29973-13-5D (Ethiofencarb); 30560-19-1D (Acephate); 33089-61-1D (Amitraz); 34643-46-4D (Prothiofos); 34681-10-2D (Butocarboxim); 35367-38-5D (Diflubenzuron); 35400-43-2D (Sulprofos); 38260-54-7D (Etrimfos); 39196-18-4D (Thiofanox); 39515-41-8D (Fenpropathrin); 41083-11-8D (Azocyclotin); 51596-10-2D (Milbemectin); 51630-58-1D (Fenvalerate); 52315-07-8D (Zetacypermethrin); 52645-53-1D (Permethrin); 52918-63-5D (Deltamethrin); 54593-83-8D (Chlorethoxyfos); 59669-26-0D (Thiodicarb); 62850-32-2D (Fenothiocarb); 63935-38-6D (Cycloprothrin); 64628-44-0D (Triflumuron); 65691-00-1D (Triarathene); 66230-04-4D (Esfenvalerate); 66841-25-6D (Tralomethrin); 67375-30-8D (Alphacypermethrin); 68359-37-5D (Cyfluthrin); 69327-76-0D (Buprofezin); 70124-77-5D (Flucythrinate); 70288-86-7D (Ivermectin); 71422-67-8D (Chlorfluazuron); 71751-41-2D (Abamectin); 74115-24-5D (Clofentezine); 78587-05-0D (Hexythiazox); 79538-32-2D (Tefluthrin); 79622-59-6D (Fluazinam); 79637-88-0D (Chloethocarb); 80844-07-1D (Ethofenprox); 82560-54-1D (Benfuracarb); 82657-04-3D (Bifenthrin); 83121-18-0D (Teflubenzuron); 83130-01-2D (Alanycarb); 86479-06-3D (Hexaflumuron); 89784-60-1D (Pyraclofos); 91465-08-6D; 95465-99-9D (Cadusafos); 95737-68-1D (Pyriproxyfen); 96182-53-5D (Tebupirimphos); 96489-71-3D (Pyridaben); 98886-44-3D (Fosthiazate); 101007-06-1D (Acrinathrin); 101463-69-8D (Flufenoxuron); 105024-66-6D (Silafluofen); 105779-78-0D (Pyrimidifen); 107713-58-6D (Flufenprox); 111872-58-3D (Brofenprox); 112143-82-5D (Triazamate); 112410-23-8D (Tebufenozide); 113036-88-7D (Flucycloxuron); 113507-06-5D (Moxidectin); 119168-77-3D (Fenpyrad); 119791-41-2D (Emamectin); 120068-37-3D (Fipronil); 120928-09-8D (Fenazaquin); 120955-77-3D (NC 184); 122453-73-0D; 134098-61-6D (Fenpyroximate); 135410-20-7D (Acetamiprid); 138261-41-3D (Imidacloprid); 144171-61-9D (DPX-MP 062); 150824-47-8D (Nitenpyram); 153719-22-3D; 153719-23-4D; 153719-24-5D; 153719-25-6D; 153719-27-8D; 161050-58-4D (RH-2485); 171103-03-0D; 171103-04-1D; 198896-95-6D; 198896-96-7D; 199062-81-2D (AZ 60541); 199063-14-4D (YI 5301/5302) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses)   (synergistic insecticidal and acaricidal compns.)
PCT Designated States: Designated States W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: CH
Priority Application Number: 96-1082
Priority Application Date: 19960429 Compn. for controlling insects and Acarina comprises a combination of an oxadiazine deriv. I [A = (un)substituted arom. or non-arom. monocyclic or bicyclic heterocyclic radical; R = H, alkyl, phenylalkyl, cycloalkyl, alkenyl or alkynyl; X = NNO2 or NCN] in free or in salt form, or a tautomer, in free or salt form, with one or more of 184 compds., such as aldicarb, azinfos-Me, benfuracarb, bifenthrin, buprofezin, etc. (no data). The compns. are esp. suitable for treatment of plant propagation material. [on SciFinder (R)]
A01N051-00. A01N047-40; A01N051-00; A01N043-88; A01N043-56; A01N043-40; A01N043-30. synergism/ insecticide/ acaricide/ oxadiazine/ deriv/ compn

1161. Sergeev, G. B., Sergeev, B. M., and Nekrasova, G. N. ([Influence of Phthalophos on the Permeability of Artificial Lipid Membranes to Water]. *Biofizika. 1982 may-jun; 27(3):548-50. [Biofizika]: Biofizika*.
<u>Chem Codes</u> : Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

MESH HEADINGS: *Insecticides
MESH HEADINGS: *Liposomes
MESH HEADINGS: Permeability
MESH HEADINGS: *Phosmet
MESH HEADINGS: *Phosphatidylcholines
MESH HEADINGS: Thermodynamics

MESH HEADINGS: Water
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Vliianie ftalofosa na pronitsaemost' iskusstvennykh lipidnykh membran dlia vody.

1162. Serrano, Roque, Hernandez, Felix, Van der Hoff, G. Rene, and Van Zoonen, Piet (1998). Sample clean-up and fractionation of organophosphorus pesticide residues in mussels using normal-phase LC. *International Journal of Environmental Analytical Chemistry* 70: 3-18.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1999:26311
Chemical Abstracts Number: CAN 130:91332
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus; sample clean-up and fractionation of organophosphorus pesticide residues in mussels using normal-phase LC); Environmental analysis; Fractionation; Liquid chromatography; Mussel; Mytilus galloprovincialis; Sample preparation (sample clean-up and fractionation of organophosphorus pesticide residues in mussels using normal-phase LC)
CAS Registry Numbers: 60-51-5 (Dimethoate); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methylparathion); 298-02-2 (Phorate); 470-90-6 (Chlorfenvinphos); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyriphos) Role: ANT (Analyte), BSU (Biological study, unclassified), POL (Pollutant), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence) (sample clean-up and fractionation of organophosphorus pesticide residues in mussels using normal-phase LC)
Citations: 1) UNEP; MAP Technical Reports Series 1991, 58
Citations: 2) Hemandez, F; Chromatographia 1996, 42, 151
Citations: 3) Barcelo, D; Intern J Environ Anal Chem 1990, 38, 199
Citations: 4) Hoar, W; General Comparative Physiology 3rd Ed 1983
Citations: 5) Serrano, R; PhD Thesis Universidad de Valencia 1991
Citations: 6) Anon; Manual of Pesticide Residue Analysis 1987, 1
Citations: 7) Greve, P; Analytical methods for residues of pesticides in foodstuffs 5th ed 1988
Citations: 8) AOAC; Official Methods of Analysis 15th 1990
Citations: 9) Miyahara, M; J Agric Food Chem 1994, 42, 2795
Citations: 10) Nakagawa, R; J Assoc Off Anal Chem 1995, 78, 921
Citations: 11) Dejonckheere, W; J Assoc Off Anal Chem 1996, 79, 97
Citations: 12) Dogheim, S; J Assoc Off Anal Chem 1996, 79, 99
Citations: 13) Hernandez, F; J Assoc Off Anal Chem 1996, 79, 123
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Citations: 15) Marquis, P; Chemosphere 1994, 29, 509
Citations: 16) Alder, L; Fresenius J Anal Chem 1996, 354, 81
Citations: 17) Grob, K; J High Res Chrom 1991, 14, 1
Citations: 18) Specht, W; Fresenius Z Anal Chem 1985, 322, 443
Citations: 19) Gillespie, A; J Liq Chromatogr 1986, 9, 2111
Citations: 20) Hogendoom, E; J High Res Chrom 1989, 12, 784
Citations: 21) Serrano, R; J Chromatogr A 1997, 778, 151
Citations: 22) Barcelo, D; Biomed Environ Mass Spectrom 1988, 17, 363
Citations: 23) Gillespie, A; J Liq Chromatogr 1989, 12, 1687
Citations: 24) Hyvonen, H; J Microcol Sep 1992, 4, 123
Citations: 25) Mostert, I; J Chromatogr 1989, 477, 359
Citations: 26) Chang, M; Bull Environ Contam Toxicol 1996, 56, 367
Citations: 27) Zollner, N; Z Ges Exp Med Bd 1962, 133s, 545

Citations: 28) van der Hoff, G; J Chromatogr A 1996, 719, 59
Citations: 29) Grob, K; J High Res Chrom 1991, 14, 373 A method has been developed for the sample clean-up of organophosphorus pesticides (OPPs) in mussels prior to gas chromatog. anal. The system applied uses a HPLC pump and a silica gel column A diode array detector is used to monitor, on line, the elution of the fat present in the mussel soft tissue that was extd. with acetonitrile:acetone and redissolved in hexane. Polar and moderately polar pesticides were fractionated and sepd. from fats using hexane:ethyl acetate 95/5, vol./vol. as mobile phase. The most polar pesticides (chlorfenvinphos, phosmet, and dimethoate) were eluted from the column using Et acetate. For the elution of non polar pesticides (chlorpyrifos, phorate, and fonophos) in fat free fractions it was necessary to use hexane as mobile phase switching on to hexane:ethyl acetate 99/1 (vol./vol.) (4 mL) after 4 min of elution. Quant. measurement of fat content in collected fractions from LC system was carried out by colorimetry in order to know the efficiency of the clean-up and the amt. of fat injected in the GC system. Fat free fractions contg. pesticides obtained after LC clean-up can be injected directly, without further clean-up steps or solvent exchange, in the GC system. The limits of detection for the organophosphorus pesticides investigated varied between 1 and 40 ng/g using mass selective detector and between 0.1 and 2 ng/g using nitrogen-phosphorus selective detector. Recoveries of the overall procedure, including extn. and clean-up, were obtained at 400 and 40 ng/g levels and they varied between 89 +- 9% and 105 +- 4%. [on SciFinder (R)] 0306-7319 sample/ cleanup/ organophosphorus/ pesticide/ environmental/ analysis;/ marine/ mussel/ sample/ cleanup/ organophosphorus/ pesticide;/ liq/ chromatog/ pesticide/ mussel/ sample/ cleanup

1163. Seth-Paul, W. A. (1978). QQ and RQ--QP branch separations in type B band envelopes of asymmetric top molecules. *Journal of Molecular Structure* 50: 29-41.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Analysis of observed QQ and RQ--QP branch separations of type B band envelopes displayed by prolate and oblate asymmetric top molecules revealed that these separations can be estimated by means of the equation [Delta][nu](QQ) = S([varrho], [kappa])SB where SB is the calculated [3] PR-separation of the corresponding type B band. The separation function S ([varrho], [kappa]) is a product of two functions S([varrho],[kappa]) = [phi]([varrho])[phi]([varrho], [kappa]) one of which is a function of [varrho]. The second depends upon the shape of the molecule (prolate or oblate), [varrho] and [kappa] or merely [kappa] depending upon whether [varrho] is smaller or larger than . Agreement with observed separations is quite satisfactory for molecules with parameters 0 < [varrho] < 4 and -1 < [kappa] < + 1. The formulas are therefore proposed to substitute for the inter- and extrapolation technique usually applied to the theoretical curves of Badger and Zumwalt [1]. http://www.sciencedirect.com/science/article/B6TGS-44CYBXJ-CS/2/000ade56946d05bd80200e18e89f01b0

1164. Shabarchin, E. I., Krugljakova, K. E., and Lendel', L. Y. A. (Use of Biological Membranes as Models for Evaluating Biological Activity of Pesticides. *Dokl. Akad. Nauk sssr 234(2): 490-492 1977 (4 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO, MODELING.

ABSTRACT: PESTAB. The effects of phosmet, prometryne, atrazine, desmetryne, and trichlorfon on the functional activity of bull heart submitochondrial particles were studied by spectrophotometric determination of the NAD-H oxidase activity. Increasing concentrations of the pesticides caused monotonical increasing inhibition of the NAD-H oxidase activity. The concentration dependence of the activity can be described by an exponential function. The pesticide concentrations causing 50% inhibition are 7.5 muM for phosmet, 145 muM for prometryne, 430 muM for atrazine, 700 muM for desmetryne, and 5,000 muM for trichlorfon. The findings indicate the possibility of using biological membranes as a model in studies on the biological activity of pesticides.
LANGUAGE: rus

1165. Shabarchin, E. I., Kruglyakova, K. E., and Gendel', L. Y. A. (Possibility of Using Biological Membranes

as Models for Evaluating the Biological Activity of Pesticides. *Dokl. Biochem. 234(1-6): 161-163 1977 (4 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: PESTAB. English translation; for abstract of original Russian article see Pesticides Abstracts No. 77-2748.

1166. Shao, X., Hu, A., Houba, V. Jg, and Novozamsky, I. (1991). Aspects of the Study of 0.01mol Calcium Chloride as Extracting Solution for Different N Fractions in Soils. *Acta pedol sin* 28: 32-39.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Eight Dutch surface soils were used in this study to analyse different N fractions in 0.01 molL-1 CaCl2 extracts and percolates at different temperatures. The results obtained showed that: (1) The temperature of 0.01 molL-1 CaCl2 extracting and percolating solution had no influence on amount of NO3--N, the extractability of other N fractions (NH4+-N, total soluble N and reduced N), however, was evidently affected by the temperature in 0.01 molL-1 CaCl2 solutions. The hydrolysis of organic N was the predominant reason for this influence. (2) The release of organic soluble N obeyed the first order kinetics. A nonlinear least square method could best fit the experimental data into the model Nt = No(1--e-kt) with R- squared being higher than 0.99. (3) The kinetic values No were highly consistent with the soluble reduced N in extraction experiment. The 0.01 molL-1 CaCl2 solution extracted and released the labile organic N fraction. The determination of soluble organic N in 0.
MESH HEADINGS: MINERALS/ANALYSIS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: TEMPERATURE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
KEYWORDS: Biochemical Methods-Minerals
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: External Effects-Temperature as a Primary Variable (1971-)
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
LANGUAGE: chi

1167. Sharma, R. P. and Obersteiner, E. J (1981). Cytotoxic responses of selected insecticides in chick ganglia cultures. *Canadian Journal of Comparative Medicine* 45: 60-9.
Chem Codes : Chemical of Concern: PSM Rejection Code: IN VITRO.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1981:133646
Chemical Abstracts Number: CAN 94:133646
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Nerve (insecticides toxicity to, in culture); Toxicity (of insecticides, to chick ganglia cultures); Insecticides (toxicity of, to chick ganglia cultures)
CAS Registry Numbers: 51-03-6; 51-14-9; 52-68-6; 52-85-7; 55-38-9; 55-91-4; 56-72-4; 57-47-6;

60-51-5; 62-73-7; 63-25-2; 78-30-8; 78-32-0; 86-50-0; 88-85-7; 96-12-8; 114-26-1; 115-90-2; 116-06-3; 121-75-5; 122-14-5; 141-66-2; 297-97-2; 298-00-0; 298-04-4; 299-84-3; 301-12-2; 311-45-5; 315-18-4; 333-41-5; 534-52-1; 563-04-2; 563-12-2; 732-11-6; 1330-78-5; 1563-66-2; 2032-59-9; 2032-65-7; 2104-64-5; 2921-88-2; 3383-96-8; 5598-13-0; 6923-22-4; 7786-34-7; 8065-48-3; 12407-86-2; 13356-08-6; 16752-77-5; 21609-90-5; 22248-79-9; 22941-83-9; 23422-53-9 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, to chick ganglia cultures) Fifty-two insecticides were tested for their effects on chick ganglia cultures. The LD50 values ranged 2-7500 mg/kg. The half maximal effect (IC50) ranged from .apprx.10-6M for methylparathion [298-00-0], diazinon [333-41-5], paraoxon [311-45-5] and Vendex [13356-08-6] to >10-2M for chlorpyriphos [2921-88-2] and methylchlorpyriphos [5598-13-0]. Based on IC50 values, carbamate insecticides were less toxic than organophosphate insecticides. Some of these insecticides (such as leptophos [21609-90-5]) caused a slight stimulation of cellular growth at very low concns. At toxic concns., a dose-related but nonspecific inhibition of cell growth was found. The cytotoxic changes included decreased migration of cells from the culture implant, varicosities in and shortening of various cells, vacuolization and rounding of neuroglial cells, and pigmentary degeneration and complete abolition of the cell growth. No significant correlations of nerve fiber or glial cell cytotoxicity were apparent with other toxic or physicochem. properties such as LD in animals, cholinesterase inhibition, lipophilicity or water soly. of chems. [on SciFinder (R)] 0008-4050 insecticide/ toxicity/ ganglia/ culture;/ nerve/ cell/ insecticide/ toxicity

1168. Sharma, V. , Wadhwa, B. K., and Stan, H. J (2005). Multiresidue analysis of pesticides in animal feed concentrate. *Bulletin of Environmental Contamination and Toxicology* 74: 342-349.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:121990
Chemical Abstracts Number: CAN 142:238880
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (carbamate; multiresidue anal. of pesticides in animal feed conc.); Feed (conc.; multiresidue anal. of pesticides in animal feed conc.); Mass spectrometry (gas chromatog. combined with; multiresidue anal. of pesticides in animal feed conc.); Gas chromatography (mass spectrometry combined with; multiresidue anal. of pesticides in animal feed conc.); Feed analysis; Feed contamination (multiresidue anal. of pesticides in animal feed conc.); Pesticides (organochlorine; multiresidue anal. of pesticides in animal feed conc.); Pesticides (organophosphorus; multiresidue anal. of pesticides in animal feed conc.); Environmental pollution (pesticide; multiresidue anal. of pesticides in animal feed conc.)
CAS Registry Numbers: 50-29-3; 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-54-8; 72-55-9; 80-38-6 (Fenson); 114-26-1 (Propoxur); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinfos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (Endosulfan-a); 1031-07-8 (Endosulfan sulfate); 1563-66-2 (Carbofuran); 2032-65-7 (Methiocarb); 2104-96-3 (Bromophos methyl); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2595-54-2 (Mecarbam); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3424-82-6; 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 13171-21-6 (Phosphamidon); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 33213-65-9 (Endosulfan-b); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 68359-37-5 (Cyfluthrin); 69409-94-5 (Fluvalinate) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue anal. of pesticides in animal feed conc.)
Citations: Agnihotri, N; Pesticide Res J 2000, 12, 150

Citations: Battu, R; Pesticide Res J 1996, 8, 172
Citations: Kalra, R; PL-480 Project 1983
Citations: Kang, B; Pesticide Res J 2002, 14, 308
Citations: Anon; NDRI / SRS Report 1996
Citations: Specht, W; Fresenius J Anal Chem 1995, 353, 183
Citations: Stan, H; J Chromatog 2000, 892, 347 The magnitude of contamination of pesticide residues including organochlorine, organophosphate, and carbamate was evaluated in animal feed conc. samples collected from Karnal (Haryana), India, in light of changed consumption pattern of pesticides in India. Out of 60 pesticides selected for multiresidue anal. only detected residues of phorate, monocrotophos, dimethoate, diazinon, carbaryl, chlorpyrifos, and p,p'-DDT were listed. Carbaryl was detected in 1 sample only. DDT was detected in 2 feed conc. samples. This decline in DDT levels could be attributed to the ban of DDT in the agriculture sector since 1984. Presence of organophosphate pesticide residues in animal feed samples is discussed to be due to major consumption of organophosphates in agriculture sector. [on SciFinder (R)] 0007-4861
organochlorine/ organophosphorus/ carbamate/ pesticide/ contamination/ feed/ analysis

1169. Sharma, Vandana, Wadhwa, B. K., and Stan, H. J (2005). Multiresidue analysis of pesticides in infant foods and weaning foods. *Indian Journal of Dairy Science* 58: 169-176.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:1136451
Chemical Abstracts Number: CAN 144:449542
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food (infant; multiresidue anal. of pesticides in infant foods and weaning foods); Food analysis; Human; Milk analysis (multiresidue anal. of pesticides in infant foods and weaning foods); Pesticides (organocarbamate; multiresidue anal. of pesticides in infant foods and weaning foods); Pesticides (organochlorine; multiresidue anal. of pesticides in infant foods and weaning foods); Pesticides (organophosphorus; multiresidue anal. of pesticides in infant foods and weaning foods); Pyrethrins Role: ANT (Analyte), BSU (Biological study, unclassified), POL (Pollutant), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence) (pyrethroids; multiresidue anal. of pesticides in infant foods and weaning foods)
CAS Registry Numbers: 50-29-3; 51-03-6 (Piperonyl butoxide); 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-55-9; 80-38-6 (Fenson); 86-50-0 (Azinphos-methyl); 90-43-7 (2-Phenylphenol); 91-53-2 (Ethoxyquin); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 133-06-2 (Captan); 133-07-3 (Folpet); 298-00-0 (Parathion-methyl); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 563-12-2 (Ethion); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1861-32-1 (Chlorthal-dimethyl); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2595-54-2 (Mecarbam); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 7696-12-0 (Tetramethrin); 10265-92-6 (Methamidophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (b-Endosulfan); 34643-46-4 (Prothiophos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 41483-43-6 (Bupirimate); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55219-65-3 (Triadimenol); 57018-04-9 (Tolclofos-methyl); 57837-19-1

(Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 63284-71-9 (Nuarimol); 66246-88-6 (Penconazole); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 75736-33-3 (Diclobutrazol); 76674-21-0 (Flutriafol); 77732-09-3 (Oxadixyl); 79983-71-4 (Hexaconazole); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazol); 87130-20-9 (Diethofencarb); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 96489-71-3 (Pyridaben); 107534-96-3 (Tebuconazole); 112281-77-3 (Tetraconazole); 119168-77-3 (Tebufenpyrad); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), BSU (Biological study, unclassified), POL (Pollutant), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence) (multiresidue anal. of pesticides in infant foods and weaning foods)
Citations: Agnihotri, N; Pesticide Res J 2000, 12, 150
Citations: Dhaliwal, G; Pesticide Monitoring J 1978, 12, 91
Citations: Gelardi, R; Regulatory Toxicology and Pharmacology 1993, 17, 181
Citations: Kalra, R; Pestcide Res J 2001, 13, 147
Citations: Kathpal, T; Pesticide Res J 1992, 4, 123
Citations: Mukherjee, L; Bull Environ Contam Toxicol 1996, 56, 381
Citations: Nakamura, Y; J Agric Food Chem 1994, 42, 2508
Citations: Raj, M; Pesticide Res J 1994, 6, 171
Citations: Sharma, V; Indian Dairyman 2002, 54, 59
Citations: Singh, B; Pesticide and Environment, Chapter 5 2000, 155
Citations: Stan, H; J Chromatoga A 2000, 892, 347
Citations: Unnikrishnan, V; Indian J Dairy and Biosci 1999, 10, 33
Citations: Yess, N; J Assoc Off Anal Chem Intl 1993, 76, 492 A multi-residue method for anal. of pesticides in foods has been developed. Samples of infant milk food and weaning food collected from Karnal and Delhi, India, market monitored for 112 pesticides including organochlorines, organophosphates, organocarbamates and synthetic pyrethroids. The method includes extn. with acetonitrile and clean-up by acetonitrile-hexane partitioning and gel permeation chromatog. and estn. by GLC and GCMS. No pesticide residues were detected in any of the infant food and weaning food samples. The absence of pesticide residues in infant formulas might be attributed to the major presence of skim milk powder and exposure of 190 to 220 Deg temp. to infant formula ingredients (dry/wet blending) which might degrade the pesticide residues. Further, washing, blanching etc. of fruits and vegetables used as ingredients in weaning foods might result in degrdn. of residues. [on SciFinder (R)] 0019-5146 pesticides/ infant/ food/ milk

1170. Shaw, Frank Robert, Callahan, R. A., and Miller, Mitchell Charles (1966). Rates of disappearance of Zolone and Imidan from alfalfa. *Journal of Economic Entomology* 59: 1524-5.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1967:10189
Chemical Abstracts Number: CAN 66:10189
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Alfalfa (Imidan and Zolone persistance in); Pesticides (phosphorus, persistence in alfalfa)
Index Terms(2): Phosphorothioic acid Role: BIOL (Biological study) (persistance in alfalfa)
CAS Registry Numbers: 732-11-6; 2310-17-0 Role: BIOL (Biological study) (persistance in alfalfa) To det. the rates of disappearance of Imidan (O,O-di-Me S-phthalimidomethyl phosphorodithioate) and Zolone [O,O-di-Et phosphorodithioate S-ester with 6-chloro-3-(mercaptomethyl)-2-benzoxazolinone] from alfalfa, these compds. were applied at rates of 1 and 2 lb. per acre, resp., to 20 * 20-ft. plots. Samples were procured at approx. weekly intervals and

analyzed. By the 21st day after application no pesticide remained on the treated plots. [on SciFinder (R)] 0022-0493 ZOLONE/ ALFALFA;/ ALFALFA/ ZOLONE;/ IMIDAN/ ALFALFA;/ INSECTICIDE/ RESIDUES;/ ZOLONE/ ALFALFA;/ ALFALFA/ ZOLONE;/ IMIDAN/ ALFALFA;/ INSECTICIDE/ RESIDUES

1171. Shaw, I., Berry, C., Lane, E., Fitzmaurice, P., Clarke, D., and Holden, A. (2002). Studies on the Putative Interactions Between the Organophosphorus Insecticide Phosmet and Recombinant Mouse Prp Super(C) and Its Implication in the Bse Epidemic. *Veterinary Research Communications [Vet. Res. Commun.]. Vol. 26, no. 4, pp. 263-271. Jun 2002.*
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ISSN: 0165-7380
Descriptors: Article Subject Terms: Prion protein
Descriptors: Bovine spongiform encephalopathy
Descriptors: Pesticides (organophosphorus)
Abstract: It has been suggested that exposure of cattle to the ectoparasiticide Phosmet in the 1980s caused a conformational change in the cellular prion protein (PrP super(C)) to form the BSE prion (PrP super(SC)), which initiated the epidemic of bovine spongiform encephalopathy (BSE). Recombinant mouse cellular prion (r[mouse]PrP super(C)) was exposed to the organophosphorus pesticide Phosmet in vitro and the conformation of the prion before and after exposure was monitored using circular dichroism (CD) spectroscopy, utilizing synchrotron radiation at the Council for the Central Laboratory of the Research Councils (CLRC) facilities at Daresbury, UK. Metabolites of Phosmet, generated in situ by rat microsomes, were investigated in the same way, to determine whether they might initiate the conformational change due to their high chemical reactivity. Our studies showed that exposure of r[mouse]PrP super(C) to Phosmet or microsomes-generated metabolites of Phosmet did not result in the conformational change in the protein from alpha -helix to beta -pleated sheet that is characteristic of the PrP super(C) to PrP super(SC) conversion and, therefore, Phosmet is very unlikely to have initiated the BSE epidemic by a simple direct mechanism of conformational change in the prion protein.
Language: English
English
Publication Type: Journal Article
Classification: X 24132 Chronic exposure
Subfile: Toxicology Abstracts

1172. Shaw, I., Berry, C., Lane, E., Fitzmaurice, P., Clarke, D., and Holden, A. (Studies on the Putative Interactions Between the Organophosphorus Insecticide Phosmet and Recombinant Mouse Prp and Its Implication in the Bse Epidemic. *Vet res commun. 2002, jun; 26(4):263-71. [Veterinary research communications]: Vet Res Commun*.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ABSTRACT: It has been suggested that exposure of cattle to the ectoparasiticide Phosmet in the 1980s caused a conformational change in the cellular prion protein (PrP(C)) to form the BSE prion (PrP(SC)), which initiated the epidemic of bovine spongiform encephalopathy (BSE). Recombinant mouse cellular prion (r[mouse]PrP(C)) was exposed to the organophosphorus pesticide Phosmet in vitro and the conformation of the prion before and after exposure was monitored using circular dichroism (CD) spectroscopy, utilizing synchrotron radiation at the Council for the Central Laboratory of the Research Councils (CLRC) facilities at Daresbury, UK. Metabolites of Phosmet, generated in situ by rat microsomes, were investigated in the same way, to determine whether they might initiate the conformational change due to their high chemical reactivity. Our studies showed that exposure of r[mouse]PrP(C) to Phosmet or microsomes-generated metabolites of Phosmet did not result in the conformational change in the protein from alpha-helix to beta-pleated sheet that is characteristic of the PrP(C) to PrP(SC) conversion and, therefore, Phosmet is very unlikely to have initiated the BSE epidemic by a simple direct mechanism of conformational change in the prion protein.
MESH HEADINGS: Animals

MESH HEADINGS: Cattle
MESH HEADINGS: Circular Dichroism
MESH HEADINGS: Encephalopathy, Bovine Spongiform/*etiology
MESH HEADINGS: Insecticides/metabolism/*pharmacology
MESH HEADINGS: Mice
MESH HEADINGS: Microsomes/metabolism
MESH HEADINGS: Phosmet/*pharmacology
MESH HEADINGS: Prions/*chemistry
MESH HEADINGS: Protein Conformation/drug effects
MESH HEADINGS: Rats
MESH HEADINGS: Recombinant Proteins/chemistry
LANGUAGE: eng

1173. Sheridan, Robert S. and Meola, John R (1999). Analysis of pesticide residues in fruits, vegetables, and milk by gas chromatography/tandem mass spectrometry. *Journal of AOAC International* 82: 982-990.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1999:782529
Chemical Abstracts Number: CAN 132:121587
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Fruit; Gas chromatography; Milk analysis; Pesticides; Tandem mass spectrometry; Vegetable (anal. of pesticide residues in fruits, vegetables, and milk by gas chromatog./tandem mass spectrometry)
CAS Registry Numbers: 50-29-3 (DDT); 51-03-6 (Piperonyl butoxide); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 85-43-8; 86-50-0 (Azinphos-m); 90-15-3 (1-Naphthol); 90-43-7 (O-Phenylphenol); 92-52-4D (Biphenyl); 96-12-8 (DBCP); 99-30-9 (Dichloran); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 117-18-0 (Tecnazene); 118-74-1 (HCB); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 148-79-8 (Thiabendazole); 297-99-4 ((E)-Phosphamidon); 298-00-0 (Parathion-methyl); 298-01-1 ((E)-Mevinphos); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 321-54-0 (Coumaphos-O-analog); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 338-45-4 ((Z)-Mevinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 834-12-8 (Ametryn); 944-22-9 (Fonofos); 959-98-8 (Endosulfan I); 1024-57-3 (Heptachlor epoxide); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1861-32-1 (Dacthal); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2132-70-9 (Methoxychlor olefin); 2255-17-6 (Fenitrothion-oxygen-analog); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2496-91-5 (Demeton S sulfone); 2497-06-5 (Disulfoton sulfone); 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2600-69-3 (Phorate oxon); 2921-88-2 (Chlorpyrifos); 3424-82-6; 5103-71-9 (Cis-Chlordane); 5103-74-2 (trans-Chlordane); 5598-52-7 (Chlorpyrifos-methyl oxon); 7287-19-6 (Prometryn); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprop); 15972-60-8 (Alachlor); 16655-82-6 (3-HydroxyCarbofuran); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22248-79-9 (Tetrachlorvinfos); 23783-98-4 ((Z)-Phosphamidon); 27304-13-8 (Oxychlordane); 29232-93-7 (Pirimiphos-Methyl); 30560-19-1 (Acephate); 31972-43-7 (Fenamiphos sulfoxide); 31972-44-8 (Fenamiphos sulfone); 33213-65-9 (Endosulfan II); 34256-82-1 (Acetochlor); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 55219-65-3 (Triadimenol);

55283-68-6 (Ethalfluralin); 56070-16-7 (Terbufos sulfone); 60207-90-1 (Propiconazole); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 66230-04-4 (Esfenvalerate); 68359-37-5 (Cyfluthrin); 82657-04-3 (Bifenthrin); 88671-89-0 (Myclobutanil); 91465-08-6; 107915-95-7
Role: ANT (Analyte), ANST (Analytical study) (anal. of pesticide residues in fruits, vegetables, and milk by gas chromatog./tandem mass spectrometry)
Citations: 1) U S Department Of Agriculture; Agricultural Marketing Service, Science and Technology Division, Pesticide Data Program, Annual Summary Calendar Year 1994
Citations: 2) Colborn, T; Chemically Induced Alterations in Sexual and Functional Development:The Wildlife-Human Connection, Princeton Scientific Publishing 1992, 107
Citations: 3) Norheim, J; Environ Pollut 1992, 77, 51
Citations: 4) McLafferty, F; Interpretation of Mass Spectra, 3rd Ed 1980, 100
Citations: 5) McLafferty, F; Tandem Mass Spectrometry 1983
Citations: 6) Johnson, J; Anal Chem 1984, 56, 1655
Citations: 7) Stout, S; J Agric Food Chem 1996, 44, 2186
Citations: 8) Johnson, J; Anal Chem 1990, 62, 2162
Citations: 9) Plomley, J; Anal Chem 1996, 68, 2345
Citations: 10) Plomley, J; Anal Chem 1994, 66, 4437
Citations: 11) Wells, G; Anal Chem 1995, 67, 3650
Citations: 12) Schachterle, S; J Chromatogr A 1996, 754, 411
Citations: 13) Fillion, J; J AOAC Int 1995, 78, 1252
Citations: 14) Hayward, D; Anal Chem 1999, 71, 212 A method for detection, quantitation, and confirmation of >100 pesticides by gas chromatog. (GC) with ion trap mass spectrometry (MS/MS) was developed. The sensitivity of this method for many analytes is or lower than those of selective GC detectors such as flame photometric detectors and electrolytic cond. detectors. Using MS/MS, very low detection limits and good confirmation (1 precursor ion and >=2 product ions) are achieved simultaneously. The entire list of pesticides is screened with 2 injections per sample. Samples are introduced onto the column by a temp.-programmed cold injection to maximize response. Each pesticide is run with its own unique set of parameters, which fragment the compd., retaining only the precursor ion. This ion is then refragmented to create a product spectrum. The selectivity of MS/MS gives a very clean spectrum, making compd. identification and confirmation clear, even with a relatively dirty food matrix. If care is taken to maintain the injection port and guard column, this method can reliably identify and confirm >100 pesticides at the low parts-per-billion range. [on SciFinder (R)] 1060-3271 pesticide/ detn/ fruit/ vegetable/ milk/ GC/ MS

1174. Sherma, J. (1992). Pesticides. *Heftmann, e. (Ed.). Journal of chromatography library, vol. 51b. Chromatography, 5th edition: fundamentals and applications of chromatography and related differential migration methods, part b. Applications. Xxxii+630p. Elsevier science publishers b.v.: Amsterdam, netherlands* New york, new york, usa. Isbn 0-444-88237-5.; 0: B513-b553.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM HERBICIDE FUNGICIDE INSECTICIDE FUMIGANT RODENTICIDE GAS CHROMATOGRAPHY HIGH PERFORMANCE LIQUID CHROMATOGRAPHY ANALYTICAL METHOD
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PREVENTIVE MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL

MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Phytopathology-Disease Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: eng

1175. Sherman, Esmeralda Resella (19830119). Phosmet-diflubenzuron insecticidal composition and method for controlling undesirable insects by applying this composition. 9 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1983:174874
Chemical Abstracts Number: CAN 98:174874
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: EPXXDW
Index Terms: Heliothis; Heliothis virescens; Spodoptera exigua; Trichoplusia ni (control of, with phosmet-diflubenzuron synergistic insecticide)
CAS Registry Numbers: 85389-66-8 Role: AGR (Agricultural use), BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal activity of, synergistic)
Reg.Pat.Tr.Des.States: Designated States R: AT, BE, CH, DE, FR, GB, IT, LI, NL.
Patent Application Country: Application: EP
Priority Application Country: US
Priority Application Number: 81-282469
Priority Application Date: 19810713 A phosmet-diflubenzuron mixt. (I-II) [85389-66-8] is a synergistic herbicide. Thus, application of I-II mixt. (3:1-1:3) to the cabbage looper, the tobacco budworm, and to the beet armyworm gave substantially improved control when compared to either insecticide applied singularly. [on SciFinder (R)] A01N057-16. A01N057-16; A01N047-34. insecticide/ synergist/ phosmet/ diflubenzuron

1176. Sherman, J. D. (1995). Organophosphate Pesticides-Neurological and Respiratory Toxicity. *Toxicology and industrial health* 11: 33-39.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A review of the physical, neurotoxic, and respiratory problems suffered by 41 persons exposed to organophosphate pesticidal products is presented.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: RESPIRATORY TRACT DISEASES/PHYSIOPATHOLOGY
MESH HEADINGS: NERVOUS SYSTEM DISEASES/PATHOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Biochemical Studies-General
KEYWORDS: Pathology
KEYWORDS: Respiratory System-Pathology
KEYWORDS: Nervous System-Pathology

KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

1177. Shibata, Y., Oyama, M., Sato, H., Nakao, K., Tsuda, M., Sonoda, M., and Tanaka, F. (1998). Simultaneous Cleanup Method for Multi Pesticide Residue Analysis by Gc and Hplc. *Journal of the food hygienic society of japan* 39: 241-250.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. A simultaneous cleanup method for the determination of pesticide residues in agricultural products by GC and HPLC was developed. The elution patterns of 120 pesticides from a hard gel-type GPC column and an ENVI-Carb-NH2 mini-column were examined. Most of the pesticides were eluted in the 55 160 mL fraction from GPC with 30% acetone-cyclohexane (v/v) and in the 0 20 mL fraction from the mini-column with 25% toluene-acetonitrile (v/v). The results showed that these two cleanup methods were applicable for most of the pesticides. A sample was extracted with acetone and filtered. The extract was partitioned with saturated ammonium sulfate-ethyl acetate. The extract was dehydrated, evaporated in vacuo, dissolved in the GPC mobile phase and cleaned up by GPC. The eluate fraction of pesticides was evaporated in vacuo and dissolved in acetone. An aliquot of the acetone solution was cleaned up on a mini-column. The eluate was evaporated in vacuo and dissolved in acetone or aceto
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-General
KEYWORDS: Pest Control
LANGUAGE: jpn

1178. Shigan, S. A (1979). System for accelerating methods of evaluating toxicity and hazardous properties of substances. *Environmental Health Perspectives* 30: 69-73.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING, HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1980:16683
Chemical Abstracts Number: CAN 92:16683
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Toxicity (of phosphorus-contg. insecticides, accelerated methods for evaluation of); Insecticides (phosphorus-contg., toxicity of, accelerated methods for evaluation of)
CAS Registry Numbers: 55-38-9; 56-38-2; 56-72-4; 60-51-5; 78-57-9; 121-75-5; 122-14-5; 298-00-0; 640-15-3; 732-11-6; 2088-72-4; 2310-17-0; 2425-25-4; 2633-54-7; 4205-52-1; 8022-00-2; 13286-32-3; 18361-88-1; 71427-23-1 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, accelerated metals for evaluation of) By studying a group of organophosphorus compds. (OPC), a system of methods for developing models of chronic intoxication was approved, to establish safe levels of chem. pollutants in the water. The magnitudes of threshold doses and ineffective doses were obtained by using MACrv (max. admissible concns. of substances in the air of industrial plants) and TLV [indexes of admissible

levels of substances in the air of industrial plants (USA stds.)]. In compiling estd. and exptl. established MAC for 21 substances, variations were recorded within the range of 2-10 times. Forecasting on the basis of ED50, Etim, and other measures during 5-20 day expts. made it possible to est. threshold and inactive doses of OPC during chronic intoxication, as well as to det. a cumulative coeff. and distribute these compds. into 2 series, according to the degree of their hazard. This project made it possible to det. cumulative properties simultaneously and forecast the chronic toxicity of OPC group under investigation. [on SciFinder (R)] 0091-6765 phosphorus/ insecticide/ toxicity/ accelerated/ evaluation;/ water/ pollution/ phosphorus/ insecticide/ evaluation

1179. Shipitalo, M. J. and Edwards, W. M. (1996). Effects of Initial Water Content on Macropore/Matrix Flow and Transport of Surface-Applied Chemicals. *Journal of environmental quality* 25: 662-670.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Pesticides and fertilizers are often broadcast on no-till fields in the spring when soil water content can be quite variable. Soil water content may influence the contribution of macropores and matrix porosity to water movement and chemical transport in subsequent rainfalls. Therefore, we surface-applied SrBr2-6H2), atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine), and alachlor (2-chloro-2',6'-diethyl-N-(methoxymethyl) acetanilide) on nine, 30 by 30 by 30 cm, undisturbed soil blocks obtained from a no-till corn (Zea mays L.) field and maintained at three initial moisture levels 1 h before a 30-mm, 0.5-h simulated rain. To distinguish applied water from resident water and assess interaction of the rainwater with the soil matrix, RbCl was added to the simulated rain as a tracer. Sequential percolate samples were collected from the base of the blocks in lysimeter. Flow-weighted concentrations of Cland Rb+, respectively, were 75 and 836% higher in percolate fro
MESH HEADINGS: BIOLOGY/METHODS
MESH HEADINGS: BODY WATER
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: ANIMAL FEED
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: GRASSES
KEYWORDS: Methods
KEYWORDS: Biochemistry-Physiological Water Studies (1970-)
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Agronomy-Forage Crops and Fodder
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Pest Control
KEYWORDS: Gramineae
LANGUAGE: eng

1180. Shipitalo, M. J. and Edwards, W. M. (1993). Seasonal Patterns of Water and Chemical Movement in Tilled and No-Till Column Lysimeters. *Soil sci soc am j* 57: 218-223.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Decreased runoff from no-till fields combined with preservation of macroporosity increases the potential for transport of agricultural chemicals to groundwater. Our objective was to determine if macropores affect the movement of water and

surface-applied chemicals through the solum. Eight, 75-cm-long, 30-cm-diam. soil cores were obtained from a 17-yr-old, no-till, corn (Zea mays L.) field within a mapping unit a Rayne silt loam (fine-loamy, mixed, mesic Typic Hapludult). The cores were converted into column lysimeters and simulated tillage was performed on the upper 15 cm of four columns. The unvegetated columns were buried outside in a mowed area and received broadcast applications of NH4NO3 and SrBr2 6H2O each spring. During a 2-yr period, the no-till columns transmitted 36% more water than the tilled column. Yearly total amounts of Br- and NO3- in the percolate were unaffected by tillage, although the losses during the growing season were greater for the no-till colum
MESH HEADINGS: CIRCADIAN RHYTHM
MESH HEADINGS: PERIODICITY
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MOVEMENT
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: WATER/METABOLISM
MESH HEADINGS: CEREALS
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: VEGETABLES
MESH HEADINGS: GRASSES
MESH HEADINGS: PLANTS
KEYWORDS: Circadian Rhythms and Other Periodic Cycles
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Movement (1971-)
KEYWORDS: Plant Physiology
KEYWORDS: Agronomy-Grain Crops
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Horticulture-Vegetables
KEYWORDS: Gramineae
KEYWORDS: Solanaceae
LANGUAGE: eng

1181. Shipitalo, M. J., Edwards, W. M., Dick, W. A., and Owens, L. B. (1990). Initial Storm Effects on Macropore Transport of Surface-Applied Chemicals in No-Till Soil. *Soil sci soc am j* 54: 1530-1536.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Previous research has established that macropores can rapidly transmit water through soil. This observation has raised concern that macropores may also promote rapid movement of agricultural chemicals to groundwater. This is a particular concern for no-till fields where lack of disruption by tillage can lead to the devlopment of extensive macropore systems. In order to investigate the effect of initial rainfall on chemical transport, strontium bromide hexahydrate (SrBr2 6H2O) and atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine) were surface-applied to six 30 by 30 by 30 cm blocks of undisturbed soil obtained from a 25-yr-old, no-till corn (Zea mays L.) field with evidence of well-defined macropores attributable to earthworm activity. Half of the blocks then received a 1-h 5-mm

simulated rain, which did not produce percolate. Two days later, the blocks received a 0.5-h 30-mm simulated rain, followed by another 0.5-h 30-mm rain 1 wk later. The remaining blocks
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: ANIMALS
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: CEREALS
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: ANATOMY, COMPARATIVE
MESH HEADINGS: ANIMAL
MESH HEADINGS: ANNELIDA/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: GRASSES
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Agronomy-Grain Crops
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Invertebrata
KEYWORDS: Gramineae
LANGUAGE: eng

1182. Shukla, G. , Kumar, A., Bhanti, M., Joseph, P. E., and Taneja, A. (Organochlorine Pesticide Contamination of Ground Water in the City of Hyderabad. *Environ int. 2006, feb; 32(2):244-7. [Environment international]: Environ Int*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

ABSTRACT: Organochlorine pesticides are ubiquitous and persistent organic pollutants used widely throughout the world. Due to the extensive use in agriculture, organic environmental contaminants such as HCH, DDT along with other organochlorine pesticides are distributed globally by transport through air and water. The main aim of present study is to determine contamination levels of organochlorine pesticides in the ground water of Hyderabad City. Water samples were collected from 28 domestic well supplies of the city. For this study, random sampling technique was applied, all the samples were collected in high purity glass bottles and refrigerated at 4 degrees C until analysis. Solid Phase Extraction (SPE) is used for the extraction of organochlorine pesticide residues in water sample. The collected water samples were pre-

filtered through a 0.45 microg glass fiber filter (Wattman GF/F) to remove particulate matter and were acidified with hydrochloric acid (6N) to pH 2.5. Methanol modifier (BDH, for pesticide residue analysis, 10 mL) was added to water sample for better extraction. SPE using pre-packed reversed phase octadecyl (C-18 bonded silica) contained in cartridges was used for sample preparation. Prior to the extraction, the C-18 bonded phase, which contains 500 mg of bonded phase, was washed with 20 mL methanol. The sample was mixed well and allowed to percolate through the cartridges with flow rate of 10-15 mL/min under vacuum. After sample extraction, suction continued for 15 min to dry the packing material and pesticides trapped in the C-18 bonded phases were eluted by passing 10 mL hexane and fraction was evaporated in a gentle steam of Nitrogen. In all samples pesticide residues were analyzed by GC (Chemito-8510) with Ni63 ECD detector. Helium was used as carrier gas and nitrogen was used as make up gas. The injection technique was split/split less. All the samples analyzed were found to be contaminated with four pesticides i.e. DDT, beta-Endosulfan, alpha-Endosulfan and Lindane. DDT was found to range between 0.15 and 0.19 microg L(-1), beta-Endosulfan ranges between 0.21 and 0.87 microg L(-1), alpha-Endosulfan ranges between 1.34 and 2.14 microg L(-1) and Lindane ranges between 0.68 and 1.38 microg L(-1) respectively. These concentrations of pesticides in the water samples were found to be above their respective Acceptable Daily Intake (ADI) values for Humans.
MESH HEADINGS: Cities
MESH HEADINGS: DDT/*analysis
MESH HEADINGS: Endosulfan/*analysis
MESH HEADINGS: Environmental Monitoring
MESH HEADINGS: India
MESH HEADINGS: Insecticides/analysis
MESH HEADINGS: Lindane/*analysis
MESH HEADINGS: Pesticide Residues/*analysis
MESH HEADINGS: Water Pollutants, Chemical/analysis
MESH HEADINGS: Water Supply/*analysis
LANGUAGE: eng

1183. Siekel, P. , Greco, V., and Paulovova, J. (The Effect of Insecticides on Mosquitos and on Some Other Organisms. *Agrochemia 19(2): 58-62 1979 (5 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The effects of Metathion E50 (50% fenitrothion), Phosphothion (50% malathion), Decemthion (20% phosmet), Acetellic 50EC (50% pirimiphos methyl), Nuvanol N50 WP (50% iodophenphos), Nexion 40WP (40% bromophos) and Ficam W (80% bendiocarb) on the larvae and imagines of the mosquito Culex pipiens Forsk., the fly Drosophil melanogaster, the toad Bufo bubo bufo Linn. and the crustacean Cyclops strennus strenuus were investigated. The active substances were added to the cultivation media for the insects, and to the water for the other two species to determine the lethal concentrations on the specimens. The effect of the insecticides on the zoocenosis of the biotopes of the mosquitoes was also determined. The concentrations at which 100% of the toads and crustaceans were killed were plotted and revealed that the applications of wide-spectrum insecticides are lethal to non-target organisms at levels intended for mosquito control.
LANGUAGE: slo

1184. Silva-Junior, V. Pd and Moya-Borja, G. E. (1996). Susceptibility of Adult Chrysomyia Albiceps (Wiedemann, 1819), Cochliomyia Macellaria (Fabricius, 1775) and Lucilia Cuprina (Wiedemann, 1830) (Diptera: Calliphoridae) to Insecticides. *Arquivos de biologia e tecnologia (curitiba)* 39: 633-637.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Experiments were conducted in 1995 to determine the susceptibility Chrysomyia albiceps (Wiedeman, 1819), Cochliomyia macellaria (Fabricius, 1775) and Lucilia cuprina (Wiedemann, 1830) to eight insecticides. Wild flies were collected on Estacao Experimental para Pesquisas Parasitologicas W.O. Neitz - UFRRJ, and were

reared in the Laboratory of Entomology to the F2 generation for topical application tests. A two percent stock concentration for all insecticides was made on the basis of weight of technical insecticide per volume of acetone diluent. Reduced concentrations were mixed on a volume to volume basis. Flies to be treated were withdrawn from the holding cage with a modified vacuum cleaner, immobilized with CO2 and then treated with the insecticides using a Hamilton microsyringe. The mortality of the flies was registered after twenty-four hours of treatment. The regressions of dosage on mortality were made by the computerized probit analysis program POLO Probit or L
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: DIPTERA
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Diptera
LANGUAGE: por

1185. Silva, Liana, Coutinho, Ana, Fedorov, Alexander, and Prieto, Manuel (2003). Solution conformation of a nitrobenzoxadiazole derivative of the polyene antibiotic nystatin: a FRET study. *Journal of Photochemistry and Photobiology B: Biology* 72: 17-26.
Chem Codes : Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Nystatin is a polyene antibiotic frequently applied in the treatment of topical fungal infections. In this work, a 7-nitrobenz-2-oxa-1,3-diazole (NBD) hexanoyl amide derivative of nystatin was synthesized and its detailed photophysical characterization is presented. The average conformation of the labelled antibiotic in tetrahydrofuran, ethanol and methanol was determined by intramolecular (tetraene to NBD) fluorescence resonance energy transfer measurements. At variance with the literature [Can. J. Chem. 63 (1985) 77-85], it was concluded that there is no need to invoke a solvent-dependent conformational equilibrium between extended and closed conformers of the antibiotic, because the mean tetraene-to-NBD separating distance was found to remain constant ([approximate]18 A) in all the solvents studied. In addition, the large solvent dependence of the fluorescence anisotropy observed for the non-derivatized nystatin, was rationalized on the basis of the prolate ellipsoidal geometry of the molecule. It was concluded that the rod shaped and amphipathic antibiotic remains monomeric in different solvents within the concentration range studied (2-20 [mu]M). Nystatin/ Polyene antibiotic/ Fluorescence/ FRET
http://www.sciencedirect.com/science/article/B6TH0-49MF1WD-1/2/f53b47ae1075dbd5e0996b590c5e3b25

1186. Simcox, Nancy J., Fenske, Richard A., Wolz, Sarah A., Lee, I-Chwen, and Kalman, David A (1995). Pesticides in household dust and soil: exposure pathways for children of agricultural families. *Environmental Health Perspectives* 103: 1126-34.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 1996:49660
Chemical Abstracts Number: CAN 124:95850
Section Code: 59-2
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4, 5, 19
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorous; pesticides in household dust and soil and exposure pathways for children of agricultural families); Dust; Public health; Soil pollution (pesticides in household dust and soil and exposure pathways for children of agricultural families)
CAS Registry Numbers: 56-38-2 (Parathion); 86-50-0 (Azinphosmethyl); 732-11-6 (Phosmet); 2921-88-2 (Chlorpyrifos) Role: POL (Pollutant), OCCU (Occurrence) (pesticides in household dust and soil and exposure pathways for children of agricultural families) Children of agricultural families are likely to be exposed to agricultural chems., even if they are not involved in farm activities. This study was designed to det. whether such children are exposed to higher levels of pesticides than children whose parents are not involved in agriculture and whose homes are not close to farms. Household dust and soil samples were collected from children play areas from 59 residences in eastern Washington State (26 farming, 22 farmworker, and 11 nonfarming families). The majority of the farm families lived within 200 ft of an operating apple or pear orchard, whereas all ref. homes were located >=1/4 mi from an orchard. Four organophosphorous (OP) insecticides commonly used on tree fruit targeted for anal. were azinphosmethyl, chlorpyrifos, parathion, and phosmet. Pesticide concns. in household dust were significantly higher than in soil for all groups. OP levels for farmer/farmworker families ranged from nondetectable to 930 ng/g in soil (0.93 ppm) and from nondetectable to 17,000 ng/g in dust (17 ppm); all 4 OP compds. were found in 62% of household dust samples, and 2/3rds of the farm homes contained >=1 OP above 1000 ng/g. Residues were found less frequently in ref. homes, and all levels were <1000 ng/g. Household dust concns. for all 4 target compds. were significantly lower in ref. homes when compared to farmer/farmworker homes (Mann-Whitney U test; $p<0.05$). The results demonstrate that children of agricultural families have a higher potential for exposure to OP pesticides than children of nonfarm families in this region. Measureable residues of a toxicity I compd. registered exclusively for agricultural use (azinphosmethyl) were found in household dust samples from all study homes, that low-level exposure to such chems. occurs throughout the region. [on SciFinder (R)] 0091-6765 pesticide/ household/ dust/ soil/ children/ agriculture

1187. Sinderhauf, Katrin and Schwack, Wolfgang (2004). Optimised synthesis of the 15N-labelled insecticide phosmet. *Journal of Labelled Compounds & Radiopharmaceuticals* 47: 509-512.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:686410
Chemical Abstracts Number: CAN 142:198138
Section Code: 29-7
Section Title: Organometallic and Organometalloidal Compounds
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
CAS Registry Numbers: 16001-68-6; 53510-88-6 Role: RCT (Reactant), RACT (Reactant or reagent) (optimized prepn. of the nitrogen-15-labeled insecticide phosmet); 1449-78-1P (1H-Isoindole-1,3(2H)-dione-2-15N); 836636-91-0P; 836636-92-1P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (optimized prepn. of the nitrogen-15-labeled insecticide phosmet); 836636-90-9P Role: SPN (Synthetic preparation), PREP (Preparation) (optimized prepn. of the nitrogen-15-labeled insecticide phosmet)
Citations: 1) Jahn, C; J Agric Food Chem 2001, 49, 1233
Citations: 2) Wettach, J; Food Agric Immunol 2002, 14, 5

Citations: 3) Truchlik, S; CZ 587-8032 1990
Citations: 4) Rufenacht, K; Helv Chim Acta 1974, 57, 1658
Citations: 5) Gyongi, M; RO 282-109277 1984
Citations: 6) Bayona Paltort A; ES 984-531074 1985
Citations: 7) Schrader, G; Methoden der Organischen Chemie, Organische Phosphorverbindungen 1964, 685
Citations: 8) Sinderhauf, K; J Agric Food Chem 2003, 51, 5990
Citations: 9) Cavezza, A; FR 212003-6157 2003
Citations: 10) Oosawa, T; JP 1393-6959 1994
Citations: 11) Cesura, A; CH 2003080573 WO 2002 A simple strategy for the small-scale synthesis of the 15N-labeled insecticide phosmet (O,O-di-Me S-phthalimidomethyl phosphorodithioate) has been developed, starting from 15N-phthalimide-K. [on SciFinder (R)] 0362-4803 nitrogen/ 15/ labeled/ insecticide/ phosmet/ optimized/ prepn

1188. Sinderhauf, Katrin and Schwack, Wolfgang (2004). Photodegradation chemistry of the insecticide phosmet in lipid models and in the presence of wool wax, employing a 15N-labeled compound. *Journal of Agricultural and Food Chemistry* 52: 8046-8052.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING, CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:1023702
Chemical Abstracts Number: CAN 142:150223
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Fatty acids Role: BSU (Biological study, unclassified), BIOL (Biological study) (Me esters; photodegrdn. of phosmet in lipid models and in presence of wool wax); Photolysis; UV radiation (photodegrdn. of phosmet in lipid models and in presence of wool wax); Lipids; Wool wax Role: BSU (Biological study, unclassified), BIOL (Biological study) (photodegrdn. of phosmet in lipid models and in presence of wool wax)
CAS Registry Numbers: 112-61-8 (Methyl stearate); 112-62-9 (Methyl oleate); 141-23-1 (Methyl 12-hydroxystearate) Role: BSU (Biological study, unclassified), BIOL (Biological study) (photodegrdn. of phosmet in lipid models and in presence of wool wax); 732-11-6 (Phosmet) Role: CPS (Chemical process), PEP (Physical, engineering or chemical process), PYP (Physical process), PROC (Process) (photodegrdn. of phosmet in lipid models and in presence of wool wax); 3735-33-9 (Phosmet-oxon); 830337-13-8; 830337-14-9; 830337-15-0 Role: FMU (Formation, unclassified), FORM (Formation, nonpreparative) (photodegrdn. of phosmet in lipid models and in presence of wool wax)
Citations: 1) Tanabe, M; J Agric Food Chem 1974, 22, 54
Citations: 2) Vaintraub, F; Migr Prevrashch Pestits Okruzhayushchei Srede, Tr Sov-Am Simp 1976
Citations: 3) Weintraub, F; EPA Report EPA-600/9-78-003 1978, 140
Citations: 4) Rammell, C; N Z J Agric Res 1990, 33, 85
Citations: 5) Schwack, W; Toxicol Environ Chem 1987, 14, 63
Citations: 6) Schynowski, F; Chemosphere 1996, 33, 2255
Citations: 7) Schwack, W; Pestic Sci 1994, 40, 279
Citations: 8) Sinderhauf, K; J Agric Food Chem 2003, 51, 5990
Citations: 9) Mazzocchi, P; J Am Chem Soc 1984, 106, 7567
Citations: 10) Kanaoka, Y; Chem Pharm Bull 1974, 22, 2205
Citations: 11) Mazzocchi, P; Tetrahedron Lett 1983, 24, 143
Citations: 12) Schwack, W; Z Lebensm-Unters Forsch 1990, 190, 420
Citations: 13) Kanaoka, Y; Acc Chem Res 1978, 11, 407
Citations: 14) Maruyama, K; J Org Chem 1985, 50, 1426
Citations: 15) Schwack, W; Tetrahedron Lett 1987, 28, 1869

Citations: 16) Breithaupt, D; Chemosphere 2000, 41, 1401
Citations: 17) Schwack, W; J Agric Food Chem 1988, 36, 645
Citations: 18) Schwack, W; Thesis for the certificate of habilitation, University of Wuerzburg 1986
Citations: 19) Murphy, J; Stable isotopes in human nutrition Laboratory methods and research applications, Br J Nutr 2004, 91, 324
Citations: 20) Schmidt, T; Anal Bioanal Chem 2004, 378, 283
Citations: 21) Sinderhauf, K; J Labelled Compd Radiopharm 2004, 47, 509
Citations: 22) Diserens, H; J Assoc Off Anal Chem 1989, 72, 991
Citations: 23) Truter, E; Wool Wax 1956
Citations: 24) Hamilton, R; Commercial Waxes:Their Composition and Applications, Chapter 7 1995
Citations: 25) Downing, D; Aust J Chem 1960, 13, 80
Citations: 26) Mazzocchi, P; Tetrahedron Lett 1983, 24, 143
Citations: 27) Mazzocchi, P; J Am Chem Soc 1984, 106, 7567
Citations: 28) Mazzocchi, P; J Org Chem 1983, 48, 2981
Citations: 29) Mazzocchi, P; Tetrahedron Lett 1978, 4361
Citations: 30) Bryce-Smith, D; Tetrahedron 1976, 32, 1309
Citations: 31) Bryce-Smith, D; Tetrahedron 1977, 33, 2459
Citations: 32) Kanaoka, Y; Chem Pharm Bull 1982, 30, 3028 The organophosphorus insecticide phosmet is commonly used for plant protection as well as against pests on animals. Phosmet features numerous degrdn. pathways induced by UV irradn. In this study, we focused on the reaction possibilities of phosmet in the presence of lipophilic substances with olefinic structure elements, as they are frequently found in animal fur lipids, esp. in wool wax. In the first step, simple models were employed to characterize the structural types of formed photoaddn. products. On irradn. in the presence of cyclohexene, three photoaddn. products were identified, a (4p + 2p) cycloaddn. product of phosmet and cyclohexene and two diastereoisomer carbinols. Likewise, in more sophisticated models employing fatty acid Me esters for irradn. expts., phosmet was readily photodegraded. In the presence of Me oleate, also 1:1 photoaddn. products could easily be identified by means of liq. chromatog.-mass spectrometry, using a stable isotope-labeled phosmet (15N-phosmet, 50 at. %) for the photolysis expts. To converge from models to the more complex natural environment of animal skin lipids, irradn. expts. of phosmet in the presence of wool wax were performed. After 24 h of irradn., only a remnant of 1.4% of the initial phosmet was detectable. Phosmet-oxon was detected in concns. up to 27.3 mol%. [on SciFinder (R)] 0021-8561 phosmet/ photodegrdn/ lipid/ wool/ wax

1189. Sinderhauf, Katrin and Schwack, Wolfgang (2005). Photodegradation of Phosmet in Wool Wax Models and on Sheep Wool: Determination of Wool Wax Bound Phosmet by Means of Isotope Ratio Mass Spectrometry. *Journal of Agricultural and Food Chemistry* 53: 4873-4879.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:380113
Chemical Abstracts Number: CAN 143:73235
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (isotope ratio; photodegrdn. of phosmet in wool wax models and on sheep wool and detn. of wool wax bound phosmet by isotope ratio mass spectrometry); Photolysis (photodegrdn. of phosmet in wool wax models and on sheep wool and detn. of wool wax bound phosmet by isotope ratio mass spectrometry); Wool wax Role: BSU (Biological study, unclassified), BIOL (Biological study) (photodegrdn. of phosmet in wool wax models and on sheep wool and detn. of wool wax bound phosmet by isotope ratio mass spectrometry); Wool (sheep; photodegrdn. of phosmet in wool wax models and on sheep wool and detn. of wool wax

bound phosmet by isotope ratio mass spectrometry)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (photodegrdn. of phosmet in wool wax models and on sheep wool and detn. of wool wax bound phosmet by isotope ratio mass spectrometry); 112-61-8 (Methyl stearate); 112-62-9 (Methyl oleate); 141-23-1 Role: BSU (Biological study, unclassified), BIOL (Biological study) (photodegrdn. of phosmet in wool wax models and on sheep wool and detn. of wool wax bound phosmet by isotope ratio mass spectrometry); 85-41-6 (Phthalimide); 118-29-6 (N-Hydroxymethylphthalimide); 550-44-7 (N-Methylphthalimide); 1954-04-7; 1954-06-9 (N-Methoxymethylphthalimide) Role: BSU (Biological study, unclassified), BIOL (Biological study) (photodegrdn. product of phosmet in wool wax models and on sheep wool)
Citations: 1) Tanabe, M; J Agric Food Chem 1974, 22, 54
Citations: 2) Vaintraub, F; Migr Prevrashch Pestits Okruzh Srede, Tr Sov-Am Simp 1976
Citations: 3) Weintraub, F; Symp Environ Transp Transform Pestic 1978, EPA-600/9-78-003, 140
Citations: 4) Rammell, C; N Z J Agric Res 1990, 33, 85
Citations: 5) Sinderhauf, K; J Agric Food Chem 2003, 51, 5990
Citations: 6) Sinderhauf, K; J Agric Food Chem 2004, 52, 8046
Citations: 7) Sinderhauf, K; J Labelled Compd Radiopharm 2004, 47, 509
Citations: 8) Diserens, H; J Assoc Off Anal Chem 1989, 72, 991
Citations: 9) Jones, F; J Agric Food Chem 1996, 44, 3197 The photochem. reactions of phosmet, an organophosphorus insecticide used for plant protection and for control of ectoparasites on productive livestock, were studied in the presence of wool wax. Induced by UV light, phosmet features numerous degrdn. pathways as well as photoaddn. reactions with lipid structure moieties. In model irradn. expts. of phosmet in mixts. of solvents (cyclohexane, cyclohexene, 2-propanol) and fatty acid Me esters (Me stearate, Me oleate, 12-hydroxymethyl stearate), both adjusted to the hydroxyl and iodine values of wool wax, half-lives were detd. to be approx. 7 and 16 h, resp. Irradn. of phosmet on crude sheep wool resulted in a degrdn. rate of 65% after 24 h. In tracer studies with stable isotope labeled phosmet ([15N]phosmet) in com. lanolin and on raw sheep wool, employing a sunlight simulator and natural sunlight, wool wax bound phosmet was formed. After extn. and measurement by elemental analyzer/isotope ratio mass spectrometry, d15N values of the phosmet-free wool wax fractions were notably increased as compared to the value of natural lanolin. Calcd. from the d15N values, an av. of 13.9/15.6% (sunlight simulator/natural sunlight) was bound to wool wax lipids after irradn. of thin films of com. lanolin. In expts. with sheep wool, 13.2 and 15.4%, resp., were detected as wax-bound. [on SciFinder (R)] 0021-8561 phosmet/ photolysis/ wool/ wax/ detn/ mass/ spectrometry

1190. Sinderhauf, Katrin and Schwack, Wolfgang (2003). Photolysis Experiments on Phosmet, an Organophosphorus Insecticide. *Journal of Agricultural and Food Chemistry* 51: 5990-5995.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:652532
Chemical Abstracts Number: CAN 139:175178
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Solvent effect (on photolysis products of phosmet); Photolysis (photolysis of phosmet)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: CPS (Chemical process), PEP (Physical, engineering or chemical process), PROC (Process) (photolysis of phosmet); 85-41-6 (Phthalimide); 118-29-6 (N-Hydroxymethylphthalimide); 550-44-7 (N-Methylphthalimide); 1954-06-9 (N-Methoxymethylphthalimide.); 51951-27-0 (N-Isopropoxyphthalimide) Role: FMU (Formation, unclassified), FORM (Formation, nonpreparative) (photolysis product of phosmet); 67-56-1 (Methanol); 67-63-0 (2-Propanol); 110-82-7 (Cyclohexane); 110-83-8 (Cyclohexene)

Role: ARU (Analytical role, unclassified), ANST (Analytical study) (solvent effect on photolysis products of phosmet)
Citations: 1) Rammell, C; N Z J Agric Res 1990, 33, 85
Citations: 2) Rammell, C; N Z J Agric Res 1989, 32, 213
Citations: 3) Tanabe, M; J Agric Food Chem 1974, 22, 54
Citations: 4) Vaintraub, F; Biologicheskaya Zashchita Rastenii 1976, 18
Citations: 5) Weintraub, F; Symp Environ Transp Transform Pestic; EPA Report EPA-600/9-78-003 1978, 140
Citations: 6) Breithaupt, D; Chemosphere 2000, 41, 1401
Citations: 7) Schwack, W; Toxicol Environ Chem 1987, 14, 63
Citations: 8) Schynowski, F; Chemosphere 1996, 33, 2255
Citations: 9) Schwack, W; Pestic Sci 1994, 40, 279
Citations: 10) Schwack, W; J Agric Food Chem 1995, 43, 3088
Citations: 11) Schlossman, M; J Am Oil Chem Soc 1978, 55, 447
Citations: 12) Schlossman, M; Contact Dermatitis 1979, 5, 65
Citations: 13) Jahn, C; Pestic Sci 1999, 55, 1167
Citations: 14) Rufenacht, K; Helv Chim Acta 1974, 57, 1658
Citations: 15) Busev, A; J Gen Chem USSR 1977, 47, 600
Citations: 16) Iley, J; Bioorg Med Chem Lett 1998, 8, 995
Citations: 17) Sachs, F; Chem Ber 1898, 31, 1225
Citations: 18) Camazano, M; Soil Sci 1983, 136, 89
Citations: 19) Kadam, A; Indian J Chem, Sect B 1982, 21, 460
Citations: 20) Vaintraub, F; Migr Prevrashch Pestits Okruzhayushchei Srede, Tr Soc-Am Symp 1976, 87
Citations: 21) Schwack, W; Z Lebensm -Unters Forsch 1990, 190, 420
Citations: 22) Schwack, W; J Agric Food Chem 1988, 36, 645
Citations: 23) Khan, M; J Pharm Biomed Anal 1989, 7, 685
Citations: 24) Maruyama, K; J Org Chem 1985, 50, 1426
Citations: 25) Schwack, W; Tetrahedron Lett 1987, 28, 1869 The organophosphorus insecticide phosmet is used in plant protection as well as against parasites on animals. Phosmet showed numerous photoinduced reaction pathways, which first were studied in the presence of model environments for animal fur lipids (e.g., wool wax). The model solvents for satd. and unsatd. lipids were cyclohexane and cyclohexene, whereas methanol and 2-propanol were used as models for primary and secondary alc. moieties of lipids. The measured degrdn. rates over an irradn. period of 7 h in all solvents used were very similar (49-55%). The obtained photoproducts generally included phthalimide, N-hydroxymethylphthalimide, and N-methoxymethylphthalimide. Furthermore, depending on the solvent used, addnl. degrdn. products were detectable as N-isopropoxy- and N-methylphthalimide in the presence of 2-propanol and cyclohexene, resp. However, in the presence of cyclohexene, despite the similar turnover, distinctly lower concns. of photoproducts were found, indicating further still unknown degrdn. pathways. Irradiations in methanol with increasing percentages of water led to higher degrdn. rates; however, the products were found to be the same. Irradn. expts. with pure phosmet on silica TLC plates and glass surfaces resulted in degrdn. rates of 19 and 32%, resp., after 6 h. Thus, for the first time the photoinduced degrdn. of phosmet is strongly dependent on the chem. environment, affecting less the turnover than the photoproducts formed. The degrdn. behavior of phosmet on wool and in the presence of wool wax should be examd.. [on SciFinder (R)] 0021-8561 phosmet/ photolysis/ product/ solvent/ effect

1191. Singh, S. Santinath, Bohidar, H. B., and Bandyopadhyay, S. (2007). Study of gelatin-agar intermolecular aggregates in the supernatant of its coacervate. *Colloids and Surfaces B: Biointerfaces* 57: 29-36.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Intermolecular interaction leading to formation of aggregates between gelatin, a polyampholyte, and agar, a polysaccharide was studied in the supernatant of the complex coacervate formed by these biopolymers. Electrophoresis, laser light scattering and viscometry data were used to determine the interaction and the physical structure of these intermolecular soluble complexes by modeling these to be prolate ellipsoids of revolution (rod-like structures with well defined axial ratio and Perrin's factor). Solution ionic strength was found to reduce the axial ratio of these complexes implying the presence of screened polarization-induced electrostatic interaction between the two biopolymers. Gelatin-agar complex/ Light scattering/ Intrinsic viscosity/ Axial ratio http://www.sciencedirect.com/science/article/B6TFS-4MT5JY4-1/2/630d26b4d3cad15f9e7e4a152c88bd8f

1192. Sitsler, R. B. and Demers, S. K. (Remediation of Hanford's N-Reactor Liquid Waste Disposal Sites. *Health phys. 2003, feb; 84(2 suppl):s41-6. [Health physics]: Health Phys*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Hanford's N-Reactor operated from 1963 to 1987 generating approximately 9 x 10(7) m3 of radioactive and hazardous liquid effluent as a result of reactor operations. Two liquid waste disposal sites, essentially large trenches designed to filter contaminants from the water as it percolates through the soil column, were established to dispose of the effluent. The discharges to the sites included cooling water from the reactor primary, spent fuel storage, and periphery systems, along with miscellaneous drainage from reactor support facilities. Today, both sites are classified as Treatment Storage and Disposal Facilities under the Resource Conservation and Recovery Act of 1976, which makes them priority sites for remediation. The two sites cover approximately 4,100 m2 and 9,300 m2, respectively. Remediation of the sites requires removing a combined total of approximately 2.6 x 10(8) kg of contaminated soil and debris. Principal radionuclides contained in the soil/debris are 60Co, 137Cs, 239Pu, and 90Sr. Remediation of these waste sites requires demolishing concrete structures and excavating, hauling, and disposing of contaminated soils in work areas containing high levels of contamination and whole body dose rates in excess of 1 mSv h-1. The work presents unique radiological control challenges, such as minimizing external dose to workers in a constantly changing outdoor work environment, maintaining contamination control during removal of a water distribution trough filled with highly contaminated sludge, and minimizing outdoor airborne contamination during size reduction of highly contaminated pipelines. Through innovative approaches to dose reduction and contamination control, Hanford's Environmental Restoration Contractor has met the challenge, completing the first phase on schedule and with a total project exposure below the goal of 0.1 person-Sv.
MESH HEADINGS: *Biodegradation, Environmental
MESH HEADINGS: Hazardous Waste
MESH HEADINGS: Humans
MESH HEADINGS: *Nuclear Reactors
MESH HEADINGS: Radiation Dosage
MESH HEADINGS: Radiation Monitoring/*methods
MESH HEADINGS: Radiation Protection/methods
MESH HEADINGS: Radioactive Waste/*analysis
MESH HEADINGS: Soil Pollutants, Radioactive/*analysis
MESH HEADINGS: Washington
MESH HEADINGS: Waste Management/*methods
MESH HEADINGS: Water Pollution, Radioactive/*analysis
LANGUAGE: eng

1193. Skladal, Petr (1991). Determination of organophosphate and carbamate pesticides using a cobalt phthalocyanine-modified carbon paste electrode and a cholinesterase enzyme membrane. *Analytica Chimica Acta* 252: 11-15.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:673318
Chemical Abstracts Number: CAN 115:273318
Section Code: 5-1

Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (carbamate and organophosphate, detn. of, using cobalt phthalocyanine-modified carbon paste electrode and cholinesterase enzyme membrane); Electrodes (carbon, cobalt phthalocyanine-modified, cholinesterase-covered, in detn. of pesticides)
CAS Registry Numbers: 3317-67-7 (Cobalt phthalocyanine) Role: BIOL (Biological study) (carbon electrode modified with, in amperometric detn. of pesticides); 9001-08-5 (Cholinesterase) Role: BIOL (Biological study) (cobalt phthalocyanine-modified carbon electrode covered with, in amperometric detn. of carbamate and phosphate pesticides); 62-73-7 (Nogos); 122-14-5 (Metathion); 732-11-6; 950-37-8 (Supracid); 2310-17-0 (Zolone); 13171-21-6 (Dimecron); 13593-03-8 (Ekalux); 22781-23-3 (Seedox); 23560-59-0 (Hostaquick); 29232-93-7 (Actellic); 55285-14-8 (Marshal) Role: ANT (Analyte), ANST (Analytical study) (detn. of, using cobalt phthalocyanine-modified carbon paste electrode and cholinesterase enzyme membrane) An amperometric biosensor for the detection and detn. of organophosphate and carbamate pesticides is based on a cobalt phthalocyanine-modified carbon paste electrode covered with a cholinesterase enzyme membrane. The electrode poised at +400 mV (vs. Ag/AgCl/3M KCl) oxidizes thiocholine formed by butyrylthiocholine hydrolysis in the glutaraldehyde-crosslinked cholinesterase layer. The activity of cholinesterase is non-competitively inhibited in the presence of pesticides. A linear relationship exists between the relative decrease in steady-state current after the addn. of a sample and the inhibitor concn. This method of evaluation allows the repetitive use of an enzyme membrane; twenty analyses can be carried out with a single cholinesterase membrane. The sensitivity varies from 0.181 (Hostaquick) to 0.00136 s-1 g-1 1 (Seedox); detection limits are 0.3 and 80 mg L-1, resp., for these two pesticides. The detn. of eleven pesticides is demonstrated. [on SciFinder (R)] 0003-2670 pesticide/ phosphate/ carbamate/ amperometry/ biosensor;/ cobalt/ phthalocyanine/ biosensor/ amperometry/ pesticide;/ cholinesterase/ electrode/ amperometry/ pesticide

1194. Slamenova, D., Dusinska, M., Gabelova, A., Bohusova, T., and Ruppova, K (1992). Decemthion (Imidan)-induced single-strand breaks in human DNA, mutations at the hgprt locus of V-79 cells, and morphological transformations of embryo cells. *Environmental and Molecular Mutagenesis* 20: 73-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:526244
Chemical Abstracts Number: CAN 117:126244
Section Code: 4-6
Section Title: Toxicology
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mutagens (Imidan as, in V-79 cells); Transformation (from Imidan, of animal cells); Cell proliferation (of animal cells, Imidan effect on); Gene Role: BIOL (Biological study) (hgprt, Imidan-induced mutation in, of V-79 cells)
CAS Registry Numbers: 732-11-6 (Imidan) Role: BIOL (Biological study) (single-strand DNA breaks from, of human) After preliminary cytotoxicity testing, the capacity of Decemthion (I) to damage human DNA was detd. by alk. elution of DNA and DNA unwinding. Both tests gave pos. results, suggesting that I was able to induce single-strand breaks in DNA. This capacity was higher in the absence and lower in the presence of the S9 fraction. The potential mutagenicity of I was followed on the basis of its ability to induce resistance to 6-thioguanine in V-79 hamster cells. Unlike the induction of single-strand breaks, I showed, in the absence of the metabolic activation system, a very weak mutagenic effect, which was, however, significantly higher in the presence of the S9 fraction. The ability of the substance to transform diploid cells under in vitro conditions was followed on the basis of morphol. transformation of Syrian hamster embryo cells. The results

showed that I, like pos. carcinogens, induced a significant elevation in morphol. transformed colonies of embryo cells. [on SciFinder (R)] 0893-6692 Decemthion/ single/ strand/ break/ DNA;/ Imidan/ single/ strand/ break/ DNA

1195. Slamenova, D., Dusinska, M., Gabelova, A., Bohusova, T., and Ruppova, K. (1992). Decemtione (Imidan)-Induced Single-Strand Breaks to Human Dna, Mutations at the Hgprt Locus of V79 Cells, and Morphological Transformations of Embryo Cells. *Environ mol mutagen* 20: 73-78.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. To study the genotoxic activity of Decemtione (Imidan), this substance was subjected to a series of tests. After preliminary cytotoxicity testing, the capacity of Decemtione to damage human DNA was determined by alkaline elution of DNA and DNA unwinding. Both tests gave positive results, suggesting that Decemtione was able to induce single-strand breaks in DNA. This capacity was higher in the absence and lower in the presence of the S9 fraction. The potential mutagenicity of Decemtione was followed on the basis of its ability to induce resistance to 6-thioguanine in V79 hamster cells. Unlike the induction of single-strand breaks, Decemtione showed, in the absence of the metabolic activation system, a very weak mutagenic effect, which was, however, significantly higher in the presence of the S9 fraction. The ability of the substance to transform diploid cells under in vitro conditions was followed on the basis of morphological transformation of Syrian hamster embryo cell
MESH HEADINGS: ANIMALS
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: CYTOLOGY
MESH HEADINGS: HISTOCYTOCHEMISTRY
MESH HEADINGS: HUMAN
MESH HEADINGS: ANIMALS/GENETICS
MESH HEADINGS: GENETICS, MEDICAL
MESH HEADINGS: NUCLEIC ACIDS/ANALYSIS
MESH HEADINGS: PURINES/ANALYSIS
MESH HEADINGS: PYRIMIDINES/ANALYSIS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: NUCLEIC ACIDS
MESH HEADINGS: PURINES
MESH HEADINGS: PYRIMIDINES
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: ENZYMES/PHYSIOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: IN VITRO
MESH HEADINGS: TISSUE CULTURE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
MESH HEADINGS: MICROTINAE
KEYWORDS: Cytology and Cytochemistry-Animal
KEYWORDS: Cytology and Cytochemistry-Human
KEYWORDS: Genetics and Cytogenetics-Animal
KEYWORDS: Genetics and Cytogenetics-Human
KEYWORDS: Biochemical Methods-Nucleic Acids
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Nucleic Acids

KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Enzymes-Physiological Studies
KEYWORDS: Toxicology-General
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: In Vitro Studies
KEYWORDS: Pest Control
KEYWORDS: Hominidae
KEYWORDS: Cricetidae
LANGUAGE: eng

1196. Smith, J. S. and Johnson, C. R. (1995). Nutrient Inputs From Seabirds and Humans on a Populated Coral Cay. *Marine ecology progress series. Oldendorf [MAR. ECOL. PROG. SER.]. Vol. 124, no. 1-3, pp. 189-200. 1995.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0171-8630
Descriptors: Article Subject Terms: sewage disposal
Descriptors: coral reefs
Descriptors: guano
Descriptors: eutrophication
Descriptors: marine birds
Descriptors: Article Taxonomic Terms: Anous minutus
Descriptors: Puffinus pacificus
Abstract: Inputs of inorganic nutrients in 1992 from seabirds (white-capped noddy Anous minutus) and wedgetail shearwater (Puffinus pacificus), maximum of ca 80000 breeding pairs) are compared to inputs from humans (97700 person days) on Heron Island at the southern end of the Great Barrier Reef, Australia. We estimated that noddies deposited ca 107 t, and shearwaters ca 22 t, of fresh guano. The composition of fresh noddy guano was 7.3% nitrogen, 1.5% phosphorus, 60% moisture and 31.2% other substances. Assuming a similar composition for shearwaters, the total annual deposition of guano contained 9.4 t nitrogen and 1.9 t phosphorus. Experiments examining effects of ageing of guano indicated a large decrease in total nitrogen in guano under humid conditions over 4 d as a result of volatilisation of NH sub(3). Under natural conditions most of the deposited nitrogen is likely to be lost as NH sub(3) and a relatively small fraction of the soluble component leached into the cay, but the precise dynamics will depend on rainfall and wind patterns. Phosphorus was not volatilised from guano under any experimental conditions. Although inputs of nitrogen and phosphorus from human sewage into the cay system (ca 0.3 t of each) were much less than that from birds, all nutrients from humans are released in liquid form and percolate directly into the cay. Significant seasonal and tidal variations in standing concentrations of NH sub(3), oxidised forms of nitrogen (NO sub(2)+NO sub(3)), and PO sub(4) were detected in the water column around the island. Trends of higher mean concentrations of all nutrients in summer than in winter, and higher concentrations at low tide than at high tide except at sites close to the island where nutrient levels were high independent of tide, suggest that nutrients may be transported from guano on Heron Island into the water immediately surrounding the island. The exact fate and mechanisms of transport of all nutrients require further attention.
Bibliogr.: 36 ref.
Language: English
English
Publication Type: Journal Article
Environmental Regime: Marine
Classification: Q1 01463 Habitat community studies
Classification: Q5 01521 Mechanical and natural changes
Classification: O 1070 Ecology/Community Studies
Subfile: Oceanic Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; ASFA 1: Biological Sciences & Living Resources

1197. Snead, O. C. (1996). Relation of the [3H] Gamma-Hydroxybutyric Acid (GHB) Binding Site to the

Gamma-Aminobutyric Acidb (GABAB) Receptor in Rat Brain. *Biochem.Pharmacol.* 52: 1235-1243.
Rejection Code: IN VITRO.

1198. Sojo, Luis E., Brocke, Andrea, Fillion, Julie, and Price, Susan M (1997). Application of activated carbon membranes for online cleanup of vegetable and fruit extracts in the determination of pesticide multiresidues by gas chromatography with mass selective detection. *Journal of Chromatography, A* 788: 141-154.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:734250
Chemical Abstracts Number: CAN 128:74437
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Fruit; Lemon; Lettuce; Membranes; Pear; Pesticides; Plant analysis; Vegetable (carbon membranes for online cleanup of vegetable and fruit exts. in detn. of pesticides by gas chromatog.-mass selective detection); Mass spectrometry (gas chromatog. combined with; carbon membranes for online cleanup of vegetable and fruit exts. in detn. of pesticides by gas chromatog.-mass selective detection); Capsicum annuum annuum (grossum group; carbon membranes for online cleanup of vegetable and fruit exts. in detn. of pesticides by gas chromatog.-mass selective detection); Gas chromatography (mass spectrometry combined with; carbon membranes for online cleanup of vegetable and fruit exts. in detn. of pesticides by gas chromatog.-mass selective detection); Insecticides (organochlorine; carbon membranes for online cleanup of vegetable and fruit exts. in detn. of pesticides by gas chromatog.-mass selective detection); Insecticides (organophosphorus; carbon membranes for online cleanup of vegetable and fruit exts. in detn. of pesticides by gas chromatog.-mass selective detection)
CAS Registry Numbers: 7440-44-0 (Carbon) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (activated; carbon membranes for online cleanup of vegetable and fruit exts. in detn. of pesticides by gas chromatog.-mass selective detection); 50-29-3; 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-55-9; 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 80-33-1 (Chlorfenson); 82-68-8 (Quintozene); 97-17-6 (Dichlofenthion); 101-21-3 (Chloropropham); 103-17-3 (Chlorbenside); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (HCB); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 133-07-3 (Folpet); 139-40-2 (Propazine); 141-66-2 (Dicrotophos); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3; 300-76-5 (Naled); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (Eptam); 786-19-6 (Carbofenthion); 789-02-6 (o,p'-DDT); 886-50-0 (Terbutryn); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 959-98-8 (Endosulfan-I); 1014-69-3 (Desmetryn); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1194-65-6; 1582-09-8 (Trifluralin); 1634-78-2 (Malaoxon); 1836-75-5 (Nitrofen); 1861-32-1; 1861-40-1 (Benfluralin); 1912-24-9 (Atrazine); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chloropyriphos); 3244-90-4 (Aspon); 3689-24-5 (Sulfotep); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5598-13-0 (Chlorpyrifos-methyl); 6190-65-4 (Deethyl atrazine); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 13071-79-9 (Terbufos); 13593-03-8 (Quinalphos); 15972-60-8 (Alachlor); 17708-57-5; 17708-58-6; 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22248-79-9 (Tetrachlorvinfos); 23505-41-1 (Pirimiphos-ethyl); 23950-58-5 (Pronamide); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan-II); 41198-08-7 (Profenofos); 43121-43-3

(Triadimefon); 50471-44-8 (Vinclozolin); 51235-04-2 (Hexazinone); 55283-68-6 (Ethalfluralin); 60238-56-4 (Chlorthiophos); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin) Role: ANT (Analyte), ANST (Analytical study) (carbon membranes for online cleanup of vegetable and fruit exts. in detn. of pesticides by gas chromatog.-mass selective detection) The feasibility of using activated carbon membranes for the online cleanup of vegetables and fruits samples in the detn. of pesticide multi-residues was investigated. The interactions of over one hundred pesticides, including organochlorine, organophosphorus and organonitrogen compds., in various solvents and vegetable and fruit exts. with the activated carbon membranes were studied. It was found that in general pesticides contg. benzene rings with small substituents interacted strongly with the carbon membranes when the pesticides were dissolved in acetone, acetonitrile or Et acetate. On the other hand, pesticides without benzene rings or with benzene rings contg. bulky substituents showed little or no interaction with the carbon membranes when dissolved in the above mentioned solvents. Addn. of toluene to solns. of pesticides in either acetone or acetonitrile was necessary to minimize these interactions. A simple cleanup procedure for fruits and vegetables, involving the filtering of a sample slurry in 25 toluene in acetonitrile through an activated carbon membrane, followed by concn. and injection into a gas chromatograph equipped with a mass selective detector was developed. Recovery data from spiked lettuce, green pepper, pear and lemon are presented as well as data from real samples. With a few exceptions, over one hundred pesticides were quant. (>80%) recovered using the novel procedure. [on SciFinder (R)] 0021-9673 pesticide/ detn/ fruit/ vegetable/ carbon/ membrane;/ chromatog/ gas/ pesticide/ fruit/ vegetable

1199. Sokolyanskaya, M. P. and Amirkhanov, D. V. (1994). Development of Cross-Resistance to Present-Day Insecticides in Domestic Fly. *Agrokhimiya* 0: 89-95 .
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE MUSCA-DOMESTICA DELTAMETHRIN FENVALERATE CYPERMETHRIN BIPHENATE LAMBDA-CYHALOTHRIN PHOSMET DDT
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMALS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: DIPTERA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Animal Pests
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Diptera

LANGUAGE: rus

1200. Sokolyanskaya, M. P. and Amirkhanov, D. V. (1994). Dynamics of Resistance Development to Present-Day Insecticides and Alteration of Principal Groups Detoxication Enzymes Activity on Domestic Fly. *Agrokhimiya* 0: 82-88.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE MUSCA-DOMESTICA DELTAMETHRIN FENVALERATE PHOXIM POSMET MONOOXYGENASE ESTERASE ORGANOPHOSPHORUS COMPOUNDS PYRETHROIDS CHITIN SYNTHESIS INHIBITORS GENETIC MECHANISM
MESH HEADINGS: PLANTS/CYTOLOGY
MESH HEADINGS: PLANTS/GENETICS
MESH HEADINGS: AMINO ACIDS
MESH HEADINGS: PEPTIDES
MESH HEADINGS: PROTEINS
MESH HEADINGS: ENZYMES/PHYSIOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMALS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: DIPTERA
KEYWORDS: Genetics and Cytogenetics-Plant
KEYWORDS: Biochemical Studies-Proteins
KEYWORDS: Enzymes-Physiological Studies
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Animal Pests
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Diptera
LANGUAGE: rus

1201. Sole, M., Porte, C., Barcelo, D., and Albaiges, J (2000). Bivalves residue analysis for the assessment of coastal pollution in the Ebro Delta (NW Mediterranean). *Marine Pollution Bulletin* 40: 746-753.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:651727
Chemical Abstracts Number: CAN 133:212700
Section Code: 61-2

Section Title: Water
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Ecotoxicology (aquatic; bivalves residue anal. for assessment of coastal pollution in the Ebro Delta (NW Mediterranean); Polycyclic compounds; Polycyclic compounds Role: POL (Pollutant), OCCU (Occurrence) (arom. hydrocarbons; bivalves residue anal. for assessment of coastal pollution in the Ebro Delta (NW Mediterranean) by); Bioindicators; Crassostrea gigas; Mytilus galloprovincialis; Ostrea edulis; Pelecypod; Ruditapes decussatus; Seawater pollution (bivalves residue anal. for assessment of coastal pollution in the Ebro Delta (NW Mediterranean); Pesticides (organochlorine; bivalves residue anal. for assessment of coastal pollution in the Ebro Delta (NW Mediterranean) by); Pesticides (organophosphorus; bivalves residue anal. for assessment of coastal pollution in the Ebro Delta (NW Mediterranean) by); Aromatic hydrocarbons; Aromatic hydrocarbons Role: POL (Pollutant), OCCU (Occurrence) (polycyclic; bivalves residue anal. for assessment of coastal pollution in the Ebro Delta (NW Mediterranean) by)
CAS Registry Numbers: 50-29-3 (p,p'-DDt); 52-68-6 (Trichlorfon); 58-89-9 (Lindane); 72-55-9; 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl-parathion); 732-11-6 (Phosmet); 2921-88-2 (Chlorpyrifos); 7012-37-5 (PCB 28); 24017-47-8 (Triazophos); 31508-00-6 (PCB 118); 35065-27-1 (PCB 153); 35065-28-2 (PCB 138); 35065-29-3 (PCB 180); 35693-99-3 (PCB 52); 37680-73-2 (PCB 101) Role: BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (bivalves residue anal. for assessment of coastal pollution in the Ebro Delta (NW Mediterranean)
Citations: Barcelo, D; International Journal of Environmental and Analytical Chemistry 1990, 38, 199
Citations: Barcelo, D; Fresenius Journal of Analytical Chemistry 1991, 339, 676
Citations: Barron, M; Comparative Biochemistry and Physiology 1995, 112C, 1
Citations: Cid, J; Marine Pollution Bulletin 1990, 21, 518
Citations: Dachs, J; Environmental Science and Technology 1997, 31, 682
Citations: Duinker, J; Marine Pollution Bulletin 1988, 19, 19
Citations: Escartin, E; Environmental Toxicology and Chemistry 1996, 15, 915
Citations: Escartin, E; Environmental Toxicology and Chemistry 1997, 16, 2090
Citations: Eto, M; Organophosphorus Pesticides:Organic and Biological Chemistry 1974, 387
Citations: Fielding, M; Pesticides in ground and drinking water (Water Polution Research Report, 27) 1992, 1
Citations: Galceran, M; Chemosphere 1993, 27, 1183
Citations: Goldberg, E; Environmental Conservative 1978, 5, 101
Citations: Lacorte, S; Environmental Science and Technology 1994, 28, 1159
Citations: Mer-Ministere de l'Energie Et Des Ressources; Dossier No 35660 1984
Citations: Neff, J; Applied Science 1974, 262
Citations: Nrcc; Fenitrothion:the effects of its use on environmental quality and its chemistry 1975, 1
Citations: Oubina, A; Environmental Science and Technology 1996, 30, 3551
Citations: Pastor, D; Marine Pollution Bulletin 1996, 32, 257
Citations: Persoone, G; Evaluation of the impact of parathion, methyl-parathion, Fenitrothion and fenthion on the aquatic environment 1985, XI/785/83(U/84/120)
Citations: Porte, C; Comparative Biochemistry and Physiology 1991, 100C(1/2), 183
Citations: Porte, C; Chemosphere 1992, 24, 735
Citations: Porte, C; Archieves of Environmental and Contamination Toxicology 1993, 26, 273
Citations: Risebrough, R; Marine Pollution Bulletin 1983, 14, 181
Citations: Serrano, R; Archieves of Environmental and Contamination Toxicology 1995, 29, 284
Citations: Sole, M; Chemosphere 1994, 28, 897
Citations: Sole, M; Aquatic Toxicology 1994, 30, 271
Citations: Sole, M; Environmental Toxicology and Chemistry 1995, 14, 157
Citations: Sole, M; Science Total Environment 1995, 159, 147
Citations: Tolosa, I; Environmental Science and Technology 1995, 29, 2519

Citations: Tomlin, C; The pesticide manual (10th ed 1994, 1341
Citations: Usepa; Technical basic for deriving sediment quality criteria for nonionic organic contaminants for the protection of benthic organisms by using equilibrium partitioning 1993, EPA-822-R-93-011
Citations: Varanasi, U; Metabolism of Polycyclic Aromatic Hydrocarbons in the Aquatic Environment 1989, 341
Citations: Walker, C; Persistent Pollutants in Marine Ecosystems 1992, 272 An anal. approach is described for bioaccumulation and ecotoxicol. assessment studies of organophosphorous pesticides (OPs), organochlorine compds. (OCls), and polycyclic arom. hydrocarbons (PAHs) in bivalves cultured in the Ebro Delta. Species exhibiting a wide range of lipid contents, namely Mytilus galloprovincialis, Ostrea edulis, Crassostrea gigas, and Ruditapes decussata were selected. Analyses of OPs were performed by gas chromatog. (GC) with nitrogen-phosphorus detection, OCls were detd. by GC with electron capture detection, and total PAHs using a flow injection system with fluorescence detection. Residue analyses indicated differences among species, that were reduced when concns. were normalized to lipid content. A seasonal fluctuation of pollutants was also obsd. that was related to the biol. cycle of the organisms and to the management of the waters in the rice crop fields of the delta. Toxicity thresholds for bivalves were not reached; nevertheless, more sensitive species such as crustaceans could be potentially affected. Toxicol. implications to humans might be of concern during field treatments with pesticides. [on SciFinder (R)] 0025-326X bivalve/ bioindicator/ pesticide/ coastal/ pollution/ Mediterranea;/ organophosphorus/ oraganichlorine/ coastal/ pollution/ bivalve/ bioindicator

1202. Soleas, G. J., Yan, J., Hom, K., and Goldberg, D. M (2000). Multiresidue analysis of seventeen pesticides in wine by gas chromatography with mass-selective detection. *Journal of Chromatography, A* 882: 205-212.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:377568
Chemical Abstracts Number: CAN 133:163236
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Gas chromatography; Pesticides; Wine analysis (multiresidue anal. of seventeen pesticides in wine by gas chromatog. with mass-selective detection); Extraction (solid-phase; multiresidue anal. of seventeen pesticides in wine by solid-phase extn.-gas chromatog. with mass-selective detection)
CAS Registry Numbers: 56-38-2 (Parathion-ethyl); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 86-50-0 (Azinphos-methyl); 99-30-9 (Dicloran); 115-32-2 (Dicofol); 333-41-5 (Diazinon); 732-11-6 (Imidan); 1085-98-9 (Dichlofluanid); 2032-65-7 (Methiocarb); 2310-17-0 (Phosalone); 5598-13-0 (Chlorpyrifos-methyl); 32809-16-8 (Procymidone); 36734-19-7 (Iprodione); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), PEP (Physical, engineering or chemical process), ANST (Analytical study), PROC (Process) (multiresidue anal. of seventeen pesticides in wine by gas chromatog. with mass-selective detection)
Citations: 1) Fan, A; Regul Toxicol Pharmacol 1989, 9, 158
Citations: 2) Driver, J; Risk Anal 1996, 16, 763
Citations: 3) Gaido, K; Environ Health Perspect 1998, 106(Suppl 6), 1347
Citations: 4) Marchese, E; Vignevini 1990, 7/8, 29
Citations: 5) Goldberg, D; J Wine Res 1999, 10, 5
Citations: 6) Anon; The Pesticide Manual 9th ed 1991
Citations: 7) Anon; Farm Chemicals Handbook 1998
Citations: 8) Soleas, G; J Wine Res in press 2000

Citations: 9) Kringle, R; Tietz Textbook of Clinical Chemistry 2nd ed 1994, 384
Citations: 10) Snedecor, G; Statistical Methods 7th ed 1967
Citations: 11) Ripley, B; J Agric Food Chem 1978, 26, 134
Citations: 12) Kawar, N; J Environ Sci Health B 1978, 13, 1
Citations: 13) Miller, F; J Agric Food Chem 1985, 33, 538
Citations: 14) Gandara, J; J Agric Food Chem 1993, 41, 674
Citations: 15) Clegg, B; J Agric Food Chem 1988, 36, 502
Citations: 16) Kakalikova, L; Z Lebensm Unters Forsch 1996, 203, 56
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Citations: 18) Kawar, N; J Environ Sci Health B 1979, 14, 505
Citations: 19) Hall, R; J Chromatogr 1979, 169, 245
Citations: 20) Cabras, P; J Chromatogr 1983, 256, 176
Citations: 21) Lopez, L; J Agric Food Chem 1989, 37, 684
Citations: 22) Matisova, E; J Chromatogr A 1996, 754, 445
Citations: 23) Navarro, S; J Agric Food Chem 1999, 47, 264
Citations: 24) Oliva, J; J Chromatogr A 1999, 833, 43
Citations: 25) Cabras, P; J AOAC Int 1997, 80, 867
Citations: 26) Cabras, P; J AOAC Int 1998, 81, 1185
Citations: 27) Cabras, P; J Agric Food Chem 1992, 40, 817
Citations: 28) Kaufmann, A; J AOAC Int 1997, 80, 1302
Citations: 29) Vitali, M; Food Addit Contam 1998, 15, 280
Citations: 30) Hyotylainen, T; J Chromatogr A 1998, 813, 113
Citations: 31) Liao, W; J Assoc Off Anal Chem 1991, 74, 554
Citations: 32) Fillion, J; J AOAC Int 1995, 78, 1252 The authors have developed a multiresidue method permitting the simultaneous quantitation of 17 pesticides in wine: dicloran, dimethoate, diazinon, chlorpyrifos-Me, vinclozolin, carbaryl, methiocarb, dichlofluanid, parathion-Et, triadimefon, procymidone, myclobutanil, iprodione, imidan, dicofol, phosalone and azinphos-Me. Solid-phase extn. of 0.5 mL of wine sample is followed by direct injection of 1 mL of the eluent onto a DB-5 MS gas chromatog. column followed by mass-selective detection using one target and two qualifier ions for each pesticide. The extn. and injection steps are carried out with automatic instrumentation. Good resoln. of all compds. was achieved with a run-time approximating 23 min. Detection and quantitation limits were .apprx.2 mg/l and 10 mg/l, resp., with linear calibration curves up to 3 mg/l for most constituents. Recovery in half the compds. was >90%, and >80% in most of the remainder. Imprecision (relative std. deviation) was <10% for most pesticides and <18% in all. Further analytes can be added to the repertoire without difficulty. The method merits consideration together with four other multiresidue methods now available that offer similar anal. characteristics, slower run-times, and a different selection of analytes. [on SciFinder (R)] 0021-9673 pesticide/ multiresidue/ analysis/ wine/ GC

1203. Song, Shuling, Ma, Xiaodong, and Li, Chongjiu (2006). Multi-residue determination method of pesticides in leek by gel permeation chromatography and solid phase extraction followed by gas chromatography with mass spectrometric detector. *Food Control* 18: 448-453.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:1108810
Chemical Abstracts Number: CAN 147:94171
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; pesticides in leek detd. by gel permeation chromatog. and solid phase extn. and GC-MS); Gas chromatography (mass spectrometry combined with; pesticides in leek detd. by gel permeation chromatog. and solid phase extn. and GC-MS); Pesticides (organochlorine; pesticides in leek detd. by gel permeation

chromatog. and solid phase extn. and GC-MS); Pesticides (organophosphorus; pesticides in leek detd. by gel permeation chromatog. and solid phase extn. and GC-MS); Allium porrum; Leek; Size-exclusion chromatography; Vegetable (pesticides in leek detd. by gel permeation chromatog. and solid phase extn. and GC-MS); Extraction (solid-phase; pesticides in leek detd. by gel permeation chromatog. and solid phase extn. and GC-MS)
CAS Registry Numbers: 91465-08-6 Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (lambda-Cyhalothrin; pesticides in leek detd. by gel permeation chromatog. and solid phase extn. and GC-MS); 50-29-3; 52-85-7 (Famphur); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Methyl azinphos); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 141-66-2 (Dicrotophos); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3; 300-76-5 (Naled); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 327-98-0 (Trichloronate); 333-41-5 (Diazinon); 510-15-6 (Chlorbenzylate); 563-12-2 (Ethion); 709-98-8 (Propanil); 732-11-6 (Phosmet); 789-02-6; 930-33-6; 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1563-66-2 (Carbofuran); 1897-45-6; 1912-24-9 (Atrazine); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2631-40-5 (Etrofolan); 2642-71-9 (Ethyl azinphos); 2921-88-2 (Chlorpyrifos); 3424-82-6; 3689-24-5 (Sulfotep); 3766-81-2 (Fenobucarb); 4824-78-6 (Ethyl bromophos); 5120-23-0; 5131-24-8 (Plondrel); 5598-13-0 (Methyl chlorpyrifos); 6923-22-4 (Monocrotophos); 7696-12-0 (Tetramethrin); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4; 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 16655-82-6 (3-Hydroxy carbofuran); 17109-49-8 (Ediphenphos); 18181-70-9 (Iodofenphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 24017-47-8 (Hostathion); 24353-61-5 (Isocarbophos); 25311-71-1 (Isofenphos); 29232-93-7 (Methyl pirimiphos); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 33213-65-9 (b-Endosulfan); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 68359-37-5; 69409-94-5 (Fluvalinate); 82657-04-3 (Bifenthrin); 103827-27-6 (Pirimiphos) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides in leek detd. by gel permeation chromatog. and solid phase extn. and GC-MS)
Citations: Balinova, A; Journal of Chromatography A 1998, 823, 11
Citations: Barwick, V; Journal of the Science of Food and Agriculture 1999, 79, 1190
Citations: Commission Decision; Official Journal of the European Communities 2002
Citations: Di Corci, A; Journal of Chromatography 1993, 642, 163
Citations: Fillion, J; Journal of AOAC International 1995, 78(5), 1252
Citations: Fillion, J; Journal of AOAC International 2000, 83(3), 698
Citations: Gamon, M; Journal of AOAC International 2001, 84(4), 1209
Citations: Gelsomino, A; Journal of Chromatography of A 1997, 782, 105
Citations: Goncalves, C; Journal of Chromatography A 2004, 1026, 239
Citations: Hennion, M; Journal of Chromatography A 2000, 885, 73
Citations: Ibanez, E; Critical Reviews in Food Science and Nutrition 2001, 41(6), 413
Citations: Schenck, F; Journal of Separation Science 2002, 25, 883
Citations: Stajnbaher, D; Journal of Chromatography A 2003, 1015, 185
Citations: Stan, H; Journal of Chromatography A 2000, 892, 347 The paper describes a multi-residue detn. method for 102 pesticides in leek. The prepn. of samples included extn. by acetone and dichloromethane and cleaned up by gel permeation chromatog. and solid phase extn. (SPE) tube. The target analytes were detd. by gas chromatog.-mass spectrometric detector with selected ions mode (GC-MS/SIM). The method was validated by fortified at the level 0.02-0.20 mg/kg in leek. The av. recoveries of all analytes were between 70% and 113%, and std. deviations were below 13%. The limit of quantitation (LOQ) for most analytes was below 0.01 mg/kg. The method was used for other vegetables like spinach, cereal, capsicum, cucumber, tomato, eggplants,

etc. For those matrixes, the same concns. were fortified and got accepted recoveries and LOQ. [on SciFinder (R)] 0956-7135 pesticide/ leek/ vegetable/ gel/ permeation/ chromatog/ extn/ GCMS

1204. Song, Shuling, Ma, Xiaodong, and Li, Chongjiu (2007). Rapid multiresidue determination method for 100 pesticides in vegetables by one injection using gas chromatography/mass spectrometry with selective ion storage technology. *Analytical Letters* 40: 183-197.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:78973
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 17
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; multiresidue detn. of pesticides); Gas chromatography (mass spectrometry combined with; multiresidue detn. of pesticides); Extraction; Food analysis; Pesticides; Vegetable (multiresidue detn. of pesticides); Pesticides (organochlorine; multiresidue detn. of pesticides); Pesticides (organophosphorus; multiresidue detn. of pesticides)
CAS Registry Numbers: 91465-08-6 Role: ANT (Analyte), ANST (Analytical study) (lambda-Cyhalothrin; multiresidue detn. of pesticides); 50-29-3; 52-85-7 (Famphur); 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphosmethyl); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 141-66-2 (Dicrotophos); 298-00-0 (Methyl-parathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3; 300-76-5 (Naled); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 327-98-0 (Trichloronat); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 709-98-8 (Propanil); 732-11-6 (Phosmet); 789-02-6; 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1563-66-2 (Carbofuran); 1897-45-6; 1912-24-9 (Atrazine); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2631-40-5 (Etrofolan); 2642-71-9 (azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3424-82-6; 3689-24-5 (Sulfotep); 3766-81-2 (Fenobucarb); 4824-78-6 (Bromophos ethyl); 5131-24-8 (Plondrel); 5598-13-0 (Chlorpyriphos-methyl); 6923-22-4 (Monocrotophos); 7696-12-0 (Tetramethrin); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 16655-82-6 (3-Hydroxycarbofuran); 17109-49-8 (Edifenphos); 18181-70-9 (Iodofenphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenofos); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 52918-63-5 (Deltamethrin); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 82657-04-3 (Bifenthrin); 103827-27-6 (Pirimiphos) Role: ANT (Analyte), ANST (Analytical study) (multiresidue detn. of pesticides)
Citations: Balinova, A; J Chromatogr A 1998, 823, 11
Citations: Colume, A; J Agri Food Chem 2001, 49, 1109
Citations: Fillion, J; J AOAC 1995, 78, 1252
Citations: Fillion, J; J AOAC 2000, 83, 698
Citations: Gamon, M; J AOAC 2001, 84, 1209
Citations: Gelsomino, A; J Chromatogr A 1997, 782, 105
Citations: Goncalves, C; J Chromatogr A 2004, 1026, 239
Citations: Hoof, F; J AOAC 2002, 85, 375

Citations: Ibanez, E; Crit Rev Food Sci 2001, 41, 413
Citations: Koskinen, W; J Environ Qual 1997, 26, 558
Citations: Lascassie, E; J Chromatogr A 1998, 805, 319
Citations: Niessner, G; J Chromatogr A 1996, 7379, 215
Citations: Patsias, J; J Chromatogr A 1996, 74, 83
Citations: Sabik, H; J Chromatogr A 2000, 885, 217
Citations: Saito, K; Chemosphere 2004, 57, 373
Citations: Schenck, F; J Sep Sci 2002, 25, 883
Citations: Stajnbaher, D; J Chromatogr A 2003, 1015, 185
Citations: Stan, H; J Chromatogr A 2000, 892, 347 A rapid multiresidue detn. method for 100 pesticides (including organophosphorus, organochlorine, carbamate, and pyrethrines) in vegetables was described. The study focused on the fast sepn. and detn. of target analytes. By optimizing the chromatog. condition and selecting specific ions of analytes, all analytes were detd. by gas chromatog./ion-trap mass spectrometry in selective ion storage mode (GC-MS/SIS) within 35 min. The sample was extd. by dichloromethane and acetone, cleaned up by graphitized carbon black (GCB) solid-phase tubes. The limit of quantitation (LOQ) for most analytes was 0.01 mg/kg. [on SciFinder (R)] 0003-2719 pesticide/ multiresidue/ detn/ vegetable/ food/ analysis/ GC/ MS

1205. Sonnenfeld, Zdenka and Paul, J (1985). Thin-layer chromatographic separation of dicrotophos, ethion (or phorate), fensulfothion, oxydemeton-methyl, phosmet, phospholan, and trichlorfon from each other. *Microchemical Journal* 32: 137-42.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1985:608707
Chemical Abstracts Number: CAN 103:208707
Section Code: 5-1
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (TLC of); Chromatography (organophosphorus pesticides sepn. by)
CAS Registry Numbers: 52-68-6; 115-90-2; 141-66-2; 298-02-2; 301-12-2; 563-12-2; 732-11-6; 947-02-4 Role: BIOL (Biological study) (TLC of) A TLC method is reported for the sepn. of dicrotophos [141-66-2], ethion [563-12-2] or phorate [298-02-2], fensulfothion [115-90-2], oxydemeton-methyl [301-12-2], phosmet [732-11-6], phospholan [947-02-4], and trichlorfon [52-68-6]. The procedure involves the use of com. prepd. silica gel 1B Baker-flex plates and developing with 2,2,4-trimethylpentane:methyl cyclohexane:hexyl alc.:acetone (18:9:9:9). The pesticides are located by spraying with ammoniacal $AgNO_3$ soln. in acetone followed by exposure to longwave UV light. The method does not sep. ethion and phorate from each other. A method is also reported for the TLC sepn. of ethion from phorate in the presence of the other 6 pesticides using solvent system 2,2,4-trimethylpentane:hexane:$CHCl_3$ (18:18:12) on silica gel 1B Baker-flex plates. [on SciFinder (R)] 0026-265X TLC/ insecticide

1206. South, D. B. and Zwolinski, J. B. (1996). Chemicals Used in Southern Forest Nurseries. *Southern journal of applied forestry* 20: 127-135.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Large-scale tree planting programs have placed a tremendous pressure on nursery managers to supply unprecedented numbers of seedlings. Inclusion of chemicals into seed production regimes have made it possible for southern pine nurseries to be the most productive in the world, in terms of both output per nursery and average cost per seedling. Nursery managers in the South rely on the use of fertilizers, fumigants, and pesticides to help keep production costs low. Judicious use of fertilizers can reduce the production of cull seedlings as well as increase field growth after outplanting. It has been our experience that

investing in the use of pesticides and inorganic fertilizers provides a high rate of return for the nursery manager.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: TREES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Forestry and Forest Products
KEYWORDS: Pest Control
KEYWORDS: Coniferopsida
LANGUAGE: eng

1207. Souza, M. S., Magnarelli, G. G., Rovedatti, M. G., Cruz, S. Santa, and Pechen De D'Angelo, A. M (2005). Prenatal exposure to pesticides: analysis of human placental acetylcholinesterase, glutathione S-transferase and catalase as biomarkers of effect. *Biomarkers* 10: 376-389.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:1140488
Chemical Abstracts Number: CAN 144:102186
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (carbamate; pesticides effect on human placental acetylcholinesterase and glutathione transferase and catalase as biomarkers of effect after prenatal exposure); Pesticides (organophosphorus; pesticides effect on human placental acetylcholinesterase and glutathione transferase and catalase as biomarkers of effect after prenatal exposure); Biomarkers; Environmental pollution; Human; Newborn; Placenta (pesticides effect on human placental acetylcholinesterase and glutathione transferase and catalase as biomarkers of effect after prenatal exposure); Enzymes Role: BSU (Biological study, unclassified), BIOL (Biological study) (pesticides effect on human placental acetylcholinesterase and glutathione transferase and catalase as biomarkers of effect after prenatal exposure)
CAS Registry Numbers: 60-51-5 (Dimethoate); 86-50-0 (Azinphos methyl); 732-11-6 (Phosmet); 2921-88-2 (Chlorpyrifos) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (pesticides effect on human placental acetylcholinesterase and glutathione transferase and catalase as biomarkers of effect after prenatal exposure); 9000-81-1 (Acetylcholinesterase); 9001-05-2 (Catalase); 50812-37-8 (Glutathione-S-transferase) Role: BSU (Biological study, unclassified), BIOL (Biological study) (pesticides effect on human placental acetylcholinesterase and glutathione transferase and catalase as biomarkers of effect after prenatal exposure)
Citations: Abu-Qare, A; Journal of Applied Toxicology 2001, 21, 307
Citations: Agrawal, D; Food Chemistry and Toxicology 1991, 29, 459
Citations: Beers, R; Journal of Biological Chemistry 1952, 195, 133
Citations: Benjaminov, O; Veterinary and Human Toxicology 1992, 1, 10
Citations: Berkowitz, G; Environmental Health Perspectives 2004, 112, 388
Citations: Chan, R; Journal of Biological Chemistry 1998, 273, 9727
Citations: Cooper, G; Environmental Health Perspectives 2004, 112, 1080
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Citations: Eskenazi, B; Environmental Health Perspectives 2004, 10, 1116
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Citations: Flower, K; Environmental Health Perspectives 2004, 112, 631
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Citations: Loewy, M; Science of the Total Environment 1999, 225, 211
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Citations: Martinez Montero, E; Anales Espanoles de Pediatria 1993, 39, 46
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Citations: Perera, F; Environmental Health Perspectives 2003, 111, 201
Citations: Perera, F; Environmental Health Perspectives 2004, 112, 626
Citations: Pope, C; Journal of Toxicology and Environment Health B 1999, 2, 161
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Citations: Raijmarkers, M; Placenta 2002, 23, 490
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Citations: Rama Sastry, B; Advanced Drug Delivery Reviews 1999, 38, 17
Citations: Rovedatti, G; XXIV Jornadas de ATA y III Jornadas Rioplatenses 2004
Citations: Souza, M; Journal of Biochemistry and Molecular Toxicology 2004, 18, 30
Citations: Stoll, C; Annales de genetique 2003, 46, 1
Citations: Voss, G; Toxicology and Applied Pharmacology 1970, 16, 764
Citations: Waliszewski, S; Salud publica de Mexico 2000, 42, 384
Citations: Walker, B; Inhalation Toxicology 2002, 14, 975
Citations: Whyatt, R; Environmental Health Perspectives 2004, 112, 1125
Citations: Willis, W; Journal of Occupational Medicine 1993, 35, 943
Citations: Woods, J; Placenta 2001, 22, s38 Pre- and perinatal exposure to pesticides is deleterious on fetal and neonatal development, but information regarding possible effects on environmental low-dose exposure to pesticides is scarce. Most epidemiol. studies of the health effect of pesticides have been based on self-reported information. However, detailed information on past pesticide use is difficult to reconstruct. This is a current study conducted among pregnant mothers attending a delivery care and perinatal program at a public hospital. The study investigates biomarkers of early effects in placentas from women living in an area with an intensive use of pesticides in the northern part of Patagonia, province of Rio Negro, Argentina, and it assesses the consistency of the information provided by self-reports. The study confirms that placental

acetylcholinesterase and catalase activities are significantly assocd. with periods of organophosphorus pesticides application, while glutathione S-transferase is not affected. The authors found a pos. correlation between environmental exposure to organophosphorus pesticides and carbamate insecticides and newborn head circumference. The findings provide a further indication of a link between placenta acetylcholinesterase and catalase activity and prenatal exposure to pesticides in population studies. Both placenta enzymes may be used as biomarkers in health surveillance programs for early diagnosis of exposure-related alterations produced by organophosphorus pesticides and carbamate pesticides. [on SciFinder (R)] 1354-750X pesticide/ organophosphorus/ carbamate/ enzyme/ placenta/ human/ biomarker

1208. Souza, Maria S., Magnarelli de Potas, Gladis, and Pechen de D'Angelo, Ana M (2004). Organophosphorous and organochlorine pesticides affect human placental phosphoinositides metabolism and PI-4 kinase activity. *Journal of Biochemical and Molecular Toxicology* 18: 30-36.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:166489
Chemical Abstracts Number: CAN 140:401592
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organochlorine; organophosphorous and organochlorine pesticides affect human placental phosphoinositides metab. and PI-4 kinase activity); Cell membrane; Cell nucleus; Human; Phosphorylation; Placenta (organophosphorous and organochlorine pesticides affect human placental phosphoinositides metab. and PI-4 kinase activity); Phosphatidylinositol 4,5-bisphosphate; Phosphatidylinositol 4-phosphate; Phosphatidylinositols Role: BSU (Biological study, unclassified), BIOL (Biological study) (organophosphorous and organochlorine pesticides affect human placental phosphoinositides metab. and PI-4 kinase activity); Pesticides (organophosphorus; organophosphorous and organochlorine pesticides affect human placental phosphoinositides metab. and PI-4 kinase activity)
CAS Registry Numbers: 76-44-8 (Heptachlor); 86-50-0 (Azinphosmethyl); 732-11-6 (Phosmet); 789-02-6; 2921-88-2 (Chlorpyriphos) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (organophosphorous and organochlorine pesticides affect human placental phosphoinositides metab. and PI-4 kinase activity); 37205-54-2 (Phosphatidylinositol-4 kinase) Role: BSU (Biological study, unclassified), BIOL (Biological study) (organophosphorous and organochlorine pesticides affect human placental phosphoinositides metab. and PI-4 kinase activity)
Citations: 1) Martinez, M; An Esp Pedriatr 1993, 39, 46
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Citations: 9) Taha, T; Bull W H O 1993, 71, 317
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Citations: 19) Loewy, M; Sci Total Environ 1999, 225, 211
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Citations: 22) Lowry, O; J Biol Chem 1951, 193, 265
Citations: 23) Noble, A; J Chromatogr 1993, 642, 3
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Citations: 29) Antunes-Madeira, M; Biochem Biophys Acta 1987, 901, 61
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Citations: 34) Petit, A; J Clin Endocrinol Metab 1989, 69, 280
Citations: 35) Ferriani, R; Growth Factors 1994, 10, 259
Citations: 36) Neri, L; Biochim Biophys Acta 2002, 1584, 73 The objective of this work was to describe the effect of organophosphorous and organochlorine pesticides on phosphoinositides metab. in human placenta. Pesticides concn. (10 mM) was used for in vitro incubations of cell-free homogenates labeled with 32P orthophosphate. Heptachlor (HC) and dichloro-diphenyl-trichloroethane (o-p' DDT) increased phosphatidyl-inositol, phosphatidylinositolphosphate, and phosphatidyl-inositolbiphosphate phosphorylation while azinphosmethyl (AM) increased phosphatidylinositolbiphosphate labeling. Decreased 32P incorporation in phosphatidylinositol was found with phosmet (PM), AM, and chlorpyriphos (CHL). The effects of these xenobiotics on PI4-kinase activity using different subcellular fractions were also examd. Both type of pesticides affected the postmembrane supernatant enzyme activity. A biphasic effect on membrane and nuclear PI4-kinase activity was seen with HC. The strongest effect found was seen with o-p' DDT in nuclear kinase activity while substantial changes were also obsd. in membrane. These data demonstrate the sensitivity of human placental PI4-kinase to pesticides currently found in human tissues and suggest deleterious consequences in different processes regulated by 4-phosphoinositides. [on SciFinder (R)] 1095-6670 organophosphorous/ organochlorine/ pesticide/ placenta/ phosphoinositide/ metab/ PI4/ kinase

1209. Spigarelli, J. and Miller, H. (Organic Compounds in Organophosphorus Pesticide Manufacturing Wastewaters. Au - Marcus M. *Us ntis pb rep. Pb-289,821: 130 pp. 1978 (9 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: PESTAB. Preliminary survey information on the organophosphorus pesticide industry wastewater streams and analytical methods to monitor levels of organic compounds present in these streams are presented. The identification and quantification of organophosphorus compounds was emphasized, but non-phosphorus chemicals were also included in the survey. A secondary goal of the program was to use the survey information to evaluate the efficiency of various waste treatment processes. The wastewater from five pesticide plants that produced 8 organophosphorus pesticides was sampled, The pesticides were diazinon, methyl parathion, azinophos-methyl, disulfoton, fonofos, phosmet bensulfide, and EPN. The 116 compounds identified included organophosphorus pesticides, related organophosphorus esters, organophosphorus acids, volatile organic compounds, thiocarbamate pesticides, triazine herbicides, and miscellaneous extractable process chemicals, by-products, and compounds of unknown origin. (Author abstract by permission)

1210. Spliid, N. H., Helweg, A., and Heinrichson, K. (Leaching and Degradation of 21 Pesticides in a Full-Scale Model Biobed. *Chemosphere. 2006, dec; 65(11):2223-32. [Chemosphere]: Chemosphere.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Filling and cleaning of pesticide sprayers presents a potential risk of pollution of soil and water. Three different solutions for handling sprayers have been suggested: Filling and cleaning in the field, filling and cleaning on hard surfaces with collection of the waste water, and filling and cleaning on a biobed, which is an excavation lined with clay and filled with a mixture of chopped straw, sphagnum and soil with turf on top, and with increased sorption capacity and microbial activity for degradation of the pesticides. In the present study the degradation and leaching of 21 pesticides (5 g of each) was followed in an established full-scale model biobed. Percolate was collected and analysed for pesticide residues, and the biobed material was sampled at three different depths and analysed by liquid chromatography double mass spectrometry (LC-MSMS). During the total study period of 563 days, no traces of 10 out of 21 applied pesticides were detected in the percolate (detection limits between 0.02 and 0.9 microg l(-1)) and three pesticides were only detected once and at concentrations below 2 microg l(-1). During the first 198 days before second application, 14% of the applied herbicide bentazone was detected in the leachate with maximum and mean concentrations of 445 and 172 microg l(-1), respectively. About 2% of the initial mecoprop and fluazifop dose was detected in the percolate, with mean concentrations of 23 microg l(-1), while MCPA and dimethoate had mean concentrations of 3.5 and 4.7 microg l(-1), respectively. Leachate concentrations for the remaining pesticides were generally below the detection limit (0.02-0.9 microg l(-1), below 1% of applied). Sorption studies of five pesticides showed that compounds with a low K(d) value appeared in the leachate. After 169 days, all pesticides in the biobed profile were degraded to a level below 50% of the calculated initial dose. Pesticides with K(oc) values above 100 were primarily found in the uppermost 10 cm and degraded slowest due to the low bioavailability. The 11 most degradable pesticides were all degraded such that less than 3% remained in the biobed after 169 days. Following second pesticide application of the biobed, leachate was sampled 215 and 365 days after the treatment. This showed the same pesticides to be leached out and at concentrations comparable to those of the first treatment. The same pesticides as after the first treatment were retained in the biobed.
MESH HEADINGS: Chromatography, High Pressure Liquid
MESH HEADINGS: *Models, Theoretical
MESH HEADINGS: Pesticides/*chemistry
MESH HEADINGS: Water/chemistry
LANGUAGE: eng

1211. Spynu, E. I., Bolotnyi, A. V., Zor'eva, T. D., and Ivanova, L. N. (Printsipy Obosnovaniya Srokov Bezopasnogo Vykhoda Liudei Na Ploshchadi, Obratobannye Pestitsidami. [Substantiation of Timing of the Start of Work at Fields Treated With Pesticides.]. *Gig. Sanit. 45(11): 64-66 1980 (3 references)* .
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: PESTAB. A method for calculating a re-entry standard for work areas treated with pesticides is described. The calculations are based on the assumption that pesticides can enter workers not only via inhalation, but also dermally. These combined amounts of pesticides are then compared with the maximum permissible concentration. This approach was used to determine re-entry rates for a number of organochlorine [Kelthane (dicofol)] and organophosphorus [Rogor (dimethoate), Metaphos (methyl parathion), and Phthalophos (phosmet)] pesticides used in vineyards, orchards, and sugar beet fields. The re-entry periods for Phthalophos, Methylmercaptophos (demeton-O-methyl), and Intrathion (thiometon) are 7, 12, and 10 days, respectively.
LANGUAGE: rus

1212. Squire, Phil G. (1970). An equation of consistency relating the harmonic mean relaxation time to sedimentation data. *Biochimica et Biophysica Acta (BBA) - Protein Structure* 221: 425-429.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

1. 1. A shape-dependent function that is independent of hydrodynamic volume has been derived and tested with data from studies of well-characterized proteins. 2. 2. The function, termed [Psi], is relatively insensitive to shape except for molecules resembling prolate ellipsoids of revolution of

axial ratio > 4. 3. 3. Proposed applications of [Psi] are (a) the indirect calculation of the harmonic mean relaxation time from sedimentation data for molecules of axial ratios < 4 and (b) the estimation of the dimensions of prolate macromolecules of axial ratio > 4, (c) testing the consistency of data from fluorescence depolarization and sedimentation data.
http://www.sciencedirect.com/science/article/B73GJ-47T21RC-TN/2/8de58ea28e8b9e37bc81ebf5ef82b9da

1213. Sreedhar, Neelam Yugandhar, Kumar Reddy, Polu Rajendra, Subba Reddy, Gopi Reddy Venkata, and Jayarama Reddy, Srinivasula Reddy (1997). Electroanalytical determination of the fungicides folpet, phosmet, and dialifos in grains and soils. *Bulletin of the Chemical Society of Japan* 70: 2425-2427.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:654631
Chemical Abstracts Number: CAN 127:356138
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Fungicides; Polarography; Seed; Soil analysis (polarog. detn. of fungicides grains and soils)
CAS Registry Numbers: 133-07-3 (Folpet); 732-11-6 (Phosmet); 10311-84-9 (Dialifos) Role: ANT (Analyte), ANST (Analytical study) (polarog. detn. of fungicides grains and soils)
Citations: 1) Hayes, W; Pesticides Studied in Man, 1982
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Citations: 12) Golabi, S; Talanta 1996, 43, 397
Citations: 13) Perrin, D; Buffers for pH and Metal Ion Control, 1974, 156
Citations: 14) Smyth, M; Anal Chim Acta 1978, 96, 335
Citations: 15) Sridevi, C; Electroanalysis 1991, 3, 435
Citations: 16) Gomez, M; Electrochim Acta 1982, 27, 435
Citations: 17) Reddy, C; Electroanalysis 1992, 4, 725 The electrochem. behavior of folpet, phosmet, and dialifos was studied using differential pulse polarog. in universal buffers of pH 2.0 to 6.0. The cathodic peak obsd. for folpet, phosmet, and dialifos is attributed to the redn. of the carbonyl group, and was shown to be pH-dependent. Differential pulse polarog. was used to est. folpet, phosmet, and dialifos in agricultural formulations, grains and soil samples. Both std. addn. and calibration methods were used for the anal. measurements. The detection limits were 1.9*10-9 , 1.72*10-9 , and 2.12*10-1 M, resp. [on SciFinder (R)] 0009-2673 polarog/ fungicide/ grain/ soil

1214. Staeubli, Sebastian, Schiener, Lothar, and Ruefenacht, Kurt (19680724). Heterocyclic thiophosphoric and thiophosphonic acid esters. 19 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))

Database: CAPLUS
Accession Number: AN 1969:77977
Chemical Abstracts Number: CAN 70:77977
Section Code: 28
Section Title: Heterocyclic Compounds (More Than One Hetero Atom)
Coden: SFXXAB
CAS Registry Numbers: 86-50-0P; 732-11-6P; 950-37-8P; 2310-17-0P; 2544-61-8P; 2642-71-9P; 2669-32-1P; 6119-96-6P; 13432-51-4P; 17605-25-3P; 19691-80-6P; 21816-75-1P; 21816-76-2P; 21824-52-2P; 21824-57-7P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of)
Patent Application Country: Application: ZA
Priority Application Country: CH
Priority Application Number: 66-9760
Priority Application Date: 19660705 The title compds. are prepd. by condensation of thiophosphoric or thiophosphonic acids with heterocyclic active H and CH2O in an aq. soln. of strong mineral acid (60-98%) at 15-60 Deg. Thus, 39 parts K salt of O,O-di-Me dithiophosphoric acid is added with cooling to a mixt. of 90 parts concd. H2SO4 and 10 parts H2O; at 35-40 Deg is added 40 parts 3-(hydroxymethyl)-6-chlorobenzoxazolin-2-one and the mixt. stirred 3 hrs. at 40 Deg to give 41 parts O,O-di-Me S-(6-chlorobenzoxazol-2-on-3-ylmethyl) dithiophosphate, m. 95-6 Deg. Similarly prepd. are O,O-di-Me S-(phthalimidomethyl) dithiophosphate, m 72-3 Deg; O,O-di-Et S-(phthalimidomethyl) dithiophosphate, m. 59-60 Deg; O,O-di-Et S-(6-chlorobenzoxazol-2-on-3-ylmethyl) dithiophosphate, m. 39-41 Deg; O,O-di-Me S-(1,2,3-benzotriazin-4-(3H)-on-3-ylmethyl) dithiophosphate, m. 70-2 Deg; O,O-di-Me S-(2-methoxy-1,3,4-thiadiazol-5(4H)-on-4-ylmethyl) dithiophosphate, m. 39-40 Deg, and the corresponding thiophosphate, m. 50-1 Deg; O-Me S-(2-methoxy-1,3,4-thiadiazol-5(4H)-on-4-ylmethyl)-dithiophenylphosphonate, m-84-6 Deg; O,O-di-Et S-(2-methoxy-1,3,4-thiadiazol-5(4H)-on-4-ylmethyl) dithiophosphate, m. 43-4 Deg; O,O-di-Me S-(2-ethoxy-1,3,4-thiadiazol-5(4H)-on-4-ylmethyl) dithiophosphate, m. 50-1 Deg; O,O-bis(2-chloroethyl) S-(2-ethoxy-1,3,4-thiadiazol-5(4H)-on-4-ylmethyl) dithiophosphate, m. 43-4 Deg; O,O-bis(2-ethoxyethyl) S-(2-ethoxy-1,3,4-thiadiazol-5(4H)-on-4-ylmethyl) dithiophosphate, m. 32-3 Deg; O,-O-di-Me S-(2-methylthio-1,3,4-thiadiazol-5(4H)-on-4-ylmethyl) dithiophosphate, m. 28-9 Deg; O,O-di-Et S-(1,2,3-benzotriazin-4(3H)-on-3-ylmethyl) dithiophosphate, m. 45-7 Deg; O,O-di-Me S-(2-phenyl-1,3,4-oxadiazol-5(4H)-on-4-ylmethyl) dithiophosphate, m. 78-80 Deg. [on SciFinder (R)] thiadiazolylmethyl/ phosphate;/ phosphate/ thiadiazolylmethyl

1215. Stafford, P. and Knapp, S. (2006). Pollen Morphology and Systematics of the Zygomorphic-Flowered Nightshades (Solanaceae; Salpiglossideae Sensu D'arcy, 1978 and Cestroideae Sensu D'arcy, 1991, Pro Parte): a Review. *Systematics and Biodiversity, 4 (2) pp. 173-201, 2006*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 1477-2000
Descriptors: Cestroideae
Descriptors: Floral zygomorphy
Descriptors: Pollen
Descriptors: Salpiglossideae
Descriptors: Solanaceae
Descriptors: Systematics
Descriptors: Tetrads
Descriptors: Nightshades
Abstract: Pollen morphology was studied in 72 species and 20 genera of the zygomorphic-flowered Solanaceae (tribe Salpiglossideae as traditionally defined, the 'basal' nightshades), inclusive of their putative relatives. Results are compared with two markedly different current treatments of taxonomic relationships within this heterogenous group. Fifteen principal pollen types are recognised based on grain size, shape, aperture type, features of sculpturing, exine stratification and dispersal mode. Pollen grains may be 3-7 zonocolpate to colporate and oblate-prolate, with polar axis measurements ranging from 15 (mu)m to more than 60 (mu)m. In most taxa the exine is characterised by a reticulate ornamentation pattern, but in others it is rugulate,

striate, punctate or micoechinate. Tetrahedral tetrads (acalymmate) were observed in species of four genera - Bouchetia, Nierembergia, Reyesia and Salpiglossis - with the walls of adjacent monads linked by direct exinal bridges. Palynological evidence does not appear to support present generic limits, and a preliminary set of taxonomically and potentially phylogenetically useful pollen characters is presented. (copyright) The Natural History Museum.
55 refs.
Language: English
English
Publication Type: Journal
Publication Type: Review
Country of Publication: United Kingdom
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.13.3 ENVIRONMENTAL BIOLOGY: Palynology and Archaeobotany
Subfile: Plant Science

1216. Stajnbaher, Darinka and Zupancic-Kralj, Lucija (2003). Multiresidue method for determination of 90 pesticides in fresh fruits and vegetables using solid-phase extraction and gas chromatography-mass spectrometry. *Journal of Chromatography, A* 1015: 185-198.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:746532
Chemical Abstracts Number: CAN 140:41014
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; multiresidue method for detn. of 90 pesticides in fresh fruits and vegetables using solid-phase extn. and); Gas chromatography (mass spectrometry combined with; multiresidue method for detn. of 90 pesticides in fresh fruits and vegetables using solid-phase extn. and); Cereal; Citrus sinensis; Daucus carota; Food analysis; Fruit; Malus pumila; Orange; Pesticides; Phaseolus vulgaris; Spinacia oleracea; Vegetable (multiresidue method for detn. of 90 pesticides in fresh fruits and vegetables using solid-phase extn. and GC-MS); Food contamination (multiresidue method for detn. of 90 pesticides in fresh fruits and vegetables using solid-phase extn. and GC-MS in relation to); Extraction (solid-phase; multiresidue method for detn. of 90 pesticides in fresh fruits and vegetables using GC-MS and)
CAS Registry Numbers: 50-29-3; 55-38-9 (Fenthion); 56-38-2 (Parathion-ethyl); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 90-43-7 (o-Phenylphenol); 92-52-4 (Biphenyl); 101-21-3 (Chlorpropham); 115-32-2 (p,p'-Dicofol); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 119-12-0 (Pyridafenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-42-9 (Propham); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8 (Thiabendazol); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 299-84-3 (Fenchlorphos); 311-45-5 (Paraoxon-ethyl); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinfos); 563-12-2 (Ethion); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 789-02-6; 944-22-9 (Fonofos); 950-35-6 (Paraoxon-methyl); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1634-78-2 (Malaoxon); 1912-24-9 (Atrazine); 2104-96-3 (Bromophos-methyl); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2595-54-2 (Mecarbam); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos-ethyl); 5598-13-0 (Chlorpyrifos-methyl); 7287-19-6 (Prometryn); 7786-34-7 (Mevinphos); 13171-21-6 (Phosphamidon); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-

methyl); 31218-83-4 (Propetamphos); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan II); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55179-31-2 (Bitertanol); 57018-04-9 (Tolclophos-methyl); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 66246-88-6 (Penconazole); 68359-37-5 (Cyfluthrin); 88671-89-0 (Myclobutanil); 91465-08-6 (l-Cyhalothrin); 107534-96-3 (Tebuconazole); 119446-68-3 (Difenoconazole); 121552-61-2 (Cyprodinil); 131341-86-1 (Fludioxonil); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue method for detn. of 90 pesticides in fresh fruits and vegetables using solid-phase extn. and GC-MS)

Citations: 1) Luke, M; J Assoc Off Anal Chem 1975, 58, 1020
Citations: 2) Specht, W; Fr J Anal Chem 1995, 353, 183
Citations: 3) Hernando, M; Analyst 2001, 126, 46
Citations: 4) Andersson, A; Fr J Anal Chem 1991, 339, 365
Citations: 5) Anon; Analytical methods for Pesticide Residues in Foodstuff, 6th ed ac:General Inspectorate for Health Protection Ministry of Health Welfare and Sport yr:1996
Citations: 6) Specht, W; Fr J Anal Chem 1985, 322, 443
Citations: 7) Stan, H; J Chromatogr A 2000, 892, 347
Citations: 8) Lee, S; Fr J Anal Chem 1991, 339, 376
Citations: 9) Anastassiades, A; J Assoc Off Anal Chem 2003, 86, 412
Citations: 10) Fillion, J; J Assoc Off Anal Chem 2000, 83, 698
Citations: 11) Schenck, F; Bull Environ Contam Toxicol 1999, 63, 277
Citations: 12) Di Muccio, A; J Chromatogr 1993, 643, 363
Citations: 13) Navarro, M; J Chromatogr A 2002, 968, 201
Citations: 14) Viana, E; J Chromatogr A 1996, 754, 437
Citations: 15) Kristenson, E; J Chromatogr A 2001, 917, 277
Citations: 16) Hiemstra, M; J Assoc Off Anal Chem 1995, 78, 1267
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Citations: 18) Cairns, T; Rapid Commun Mass Spectrom 1993, 7, 1070
Citations: 19) Podhorniak, L; J Assoc Off Anal Chem 2001, 84, 873
Citations: 20) Sheridan, R; J Assoc Off Anal Chem 1999, 82, 982
Citations: 21) Barcelo, D; Trace Determination of Pesticides and their Degradation Products in Water yr:1997
Citations: 22) Hennion, M; J Chromatogr A 1999, 856, 3
Citations: 23) Holland, T; J Assoc Off Anal Chem 1994, 77, 79
Citations: 24) Prieto, A; Food Addit Contam 1999, 16, 57
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Citations: 39) Tomlin, C; The Pesticide Manual, 10th ed 1994

A multiresidue method for anal. of 90 pesticides with different physico-chem. properties in fruits and vegetables was developed. The method involves a rapid and small-scale extn. procedure with acetone using vortex mixing. Solid-phase extn. (SPE) on a highly cross-linked polystyrene divinylbenzene column (LiChrolut EN)

was used for clean-up and pre-concn. of the pesticides from the water-dild. acetone exts. For most fruit and vegetable samples this partial clean-up was sufficient, but some of them with more co-extg. substances need further clean-up (cereals, spinach, carrots, etc.). Diethylaminopropyl (DEA) modified silica was used for efficient removal of interferences caused by various org. acids, sugars, etc. The pesticide residues were detd. by gas chromatog. with a mass selective detector (GC-MS). The majority of pesticide recoveries for various fruits and vegetables were >80% in the concn. range from 0.01 to 0.50 mg/kg, except for the most polar pesticides (methamidophos, acephate, omethoate) which cannot be detd. by this method. The limit of quantitation for most of the pesticides was 0.01 mg/kg with majority of relative std. deviations (R.S.D.s) below 10%. [on SciFinder (R)] 0021-9673 pesticide/ residue/ detn/ fruit/ vegetable/ extn/ GC/ MS

1217. Stams, A. Jm, Booltink, H. Wg, Lutke-Schipholt, I. J., Beemsterboer, B., Woittiez, J. Rw, and Van Breemen N (1991). A Field Study on Fate of Nitrogen-15 Ammonium to Demonstrate Nitrification of Atmospheric Ammonium in an Acid Forest Soil. *Biogeochemistry (dordr)* 13: 241-255.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. To demonstrate the contribution of atmospheric ammonium to soil acidification in acid forest soils, a field study with 15N-ammonium as tracer was performed in an oak-birch forest soil. Monitoring and analysis of soil solutions from various depths on the 15N-ammonium and 15N-nitrate contents, showed that about 54% of the applied 15N-ammonium was oxidized to nitrate in the forest floor. Over a period of one year about 20% of the 15N remained as organic nitrogen in this layer. The percentage 15N enrichment in ammonium and nitrate were in the same range in all the forest floor percolates, indicating that even in extremely acid forest soils (pH < 4) nitrate formation from ammonium can occur. Clearly, atmospheric ammonium can contribute to soil acidification even at low soil pH.
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
LANGUAGE: eng

1218. Stan, H. J. and Christall, B (1991). Residue analysis of onions and other foodstuffs with a complex matrix using two-dimensional capillary-GC with three selective detectors. *Fresenius' Journal of Analytical Chemistry* 339: 395-8.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:183924
Chemical Abstracts Number: CAN 114:183924
Section Code: 17-1
Section Title: Food and Feed Chemistry

CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (nitrogen- and phosphorus-contg., detn. of, in foods by 2-dimensional capillary gas chromatog.); Food analysis; Leek; Onion (pesticides detn. in, by 2-dimensional capillary gas chromatog.); Chromatography (capillary, of pesticides, 2-dimensional)
CAS Registry Numbers: 50-29-3 (p,p'-DDT); 53-19-0 (o-p'-DDD); 58-89-9 (g-HCH); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 72-43-5 (Methoxychlor); 72-54-8 (p,p'-DDD); 72-55-9 (p,p'-DDE); 76-44-8 (Heptachlor); 80-33-1 (Chlorfenson); 116-29-0 (Tetradifon); 300-76-5 (Naled); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 319-84-6 (a-HCH); 333-41-5 (Diazinon); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 789-02-6 (o,p'-DDT); 950-37-8 (Methidathion); 1024-57-3; 1194-65-6 (Dichlobenil); 1634-78-2 (Malaoxon); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2540-82-1 (Formothion); 2642-71-9 (Azinphos-ethyl); 3424-82-6; 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 13194-48-4 (Ethoprophos); 14437-17-3 (Chlorfenprop-methyl); 18181-80-1 (Bromopropylate); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 28044-83-9; 29232-93-7 (Pirimiphos-methyl); 38260-54-7 (Etrimfos); 41198-08-7 (Profenofos) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in foods by 2-dimensional capillary gas chromatog.) During application of multimethod S 19 (DFG Pesticide Commision) to onion and leek samples, GC-ECD (gas chromatog.-electron capture detection) anal. is difficult as most of the pesticide peaks are overlapped by matrix compds. Two-dimensional capillary-GC using the techniques of heart-cutting and backflushing makes it possible to transfer small fractions or even single peaks to a second column where all relevant pesticides can be sepd. from their overlapping matrix compds. Ni- and P-contg. pesticides in onion and leek samples were identified by selective detectors (N-P and flame photometric) without any problem. [on SciFinder (R)] 0937-0633 pesticide/ detn/ onion/ leek;/ gas/ chromatog/ pesticide

1219. Stan, H. J. and Kellner, G (1989). Confirmation of organophosphorus pesticide residues in food applying gas chromatography/mass spectrometry with chemical ionization and pulsed positive negative detection. *Biomedical & Environmental Mass Spectrometry* 18: 645-51.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1989:572575
Chemical Abstracts Number: CAN 111:172575
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Chromatography (mass spectrometry combined with, of organophosphorus insecticides); Lettuce; Tomato (parathion detection in, by gas chromatog.-mass spectrometry); Pear (phosalone detection in, by gas chromatog.-mass spectrometry); Insecticides (phosphorus contg., detection of, in food by gas chromatog.-mass spectrometry); Food analysis (phosphorus-contg. insecticides detection in, by gas chromatog.-mass spectrometry); Mass spectroscopy (chem.-ionization, gas chromatog. combined with, of organophosphorus insecticides); Tea products (leaves, black, ethion detection in, by gas chromatog.-mass spectrometry)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7; 78-34-2; 86-50-0 (Azinphos-methyl); 97-17-6 (Dichlofenthion); 115-90-2 (Fensulfothion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 297-97-2 (Thionazin); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 311-45-5 (Paraoxon); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 500-28-7 (Chlorthion); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-76-6 (Medithionate); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1031-47-6 (Triamiphos); 1113-02-6 (Omethoate); 1634-78-2 (Malaoxon); 2104-

64-5 (EPN); 2104-96-3 (Bromophos); 2275-14-1 (Phenkapton); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3689-24-5 (Sulfotep); 4824-78-6 (Bromophos-ethyl); 5131-24-8 (Ditalimfos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10265-92-6 (Methamidophos); 10311-84-9; 13067-93-1 (Cyanofenphos); 13171-21-6 (Phosphamidon); 13194-48-4; 13457-18-6 (Pyrazophos); 14816-18-3; 17040-19-6; 18181-70-9; 21923-23-9 (Chlorthiophos I); 22224-92-6 (Fenamiphos); 22248-79-9; 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos-methyl); 34643-46-4 (Prothiophos); 38260-54-7 (Etrimfos); 77503-28-7 (Chlorthiophos III); 77503-29-8 (Chlorthiophos II) Role: ANT (Analyte), ANST (Analytical study) (detection of, in food by gas chromatog.-mass spectrometry) A confirmatory technique for residue anal. of organophosphorus pesticides in food samples by gas chromatog./mass spectrometry is described. Capillary columns (SE-54, SE-30, OV-101) were used to sep. many commonly used insecticides. Chem. ionization with the simultaneous recording of pos. and neg. ions gave highest detection sensitivity for all 72 compds. studied. A selection of three ions was made for each pesticide and the parameters were optimized to gain highest detection sensitivity. The method was validated with food samples from a routine monitoring program. [on SciFinder (R)] 0887-6134 organophosphate/ detection/ GC/ mass/ spectrometry;/ gas/ chromatog/ mass/ spectrometry/ organophosphate;/ insecticide/ detection/ food/ mass/ spectrometry;/ chromatog/ gas/ organophosphate

1220. Stan, H. J. and Kellner, G (1982). Negative chemical ionization mass spectrometry of organophosphorus pesticides . *Biomedical Mass Spectrometry* 9: 483-92.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1983:174657
Chemical Abstracts Number: CAN 98:174657
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 29, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organophosphorus, neg.-ion chem.-ionization mass spectra of); Mass spectra (neg.-ion, chem.-ionization, of organophosphorus pesticides)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 56-72-4; 60-51-5; 62-73-7; 78-34-2; 86-50-0; 115-90-2; 121-75-5; 122-14-5; 141-66-2; 297-97-2; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 300-76-5; 311-45-5; 333-41-5; 470-90-6; 500-28-7; 563-12-2; 732-11-6; 786-19-6; 919-76-6; 919-86-8; 944-22-9; 950-37-8; 1031-47-6; 1113-02-6; 1634-78-2; 2104-96-3; 2275-14-1; 2275-23-2; 2310-17-0; 2540-82-1; 2642-71-9; 2921-88-2; 3689-24-5; 4824-78-6; 6923-22-4; 7786-34-7; 8065-48-3; 8065-62-1; 10311-84-9; 13171-21-6; 13457-18-6; 14816-18-3; 17040-19-6; 22248-79-9; 24017-47-8 Role: PRP (Properties) (mass spectrum of, neg.-ion chem.-ionization) The neg.-ion mass spectra of 52 organophosphorus pesticides obtained by chem.-ionization with CH_4, under electron-capture conditions, are reported. The influence of different ionization parameters on the total ion current and the relative intensities of the various fragment ions was studied. Few fragment ions were obsd., although they were characteristic for the class of compd. The occurrence of the mol. anion is strongly dependent on the mol. structure and its ability to stabilize the radical formed in the primary electron capture reaction by charge delocalization. Neg.-ion mass spectrometry with multiple ion detection may be a valuable tool for residue anal. in food and environmental samples. [on SciFinder (R)] 0306-042X mass/ spectra/ organophosphorus/ pesticide

1221. Stan, H. J. and Mrowetz, D (1983). Residue analysis of organophosphorus pesticides in food with two-dimensional gas chromatography using capillary columns and flame photometric detection. *HRC & CC, Journal of High Resolution Chromatography and Chromatography Communications* 6:

255-63.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1983:451968
Chemical Abstracts Number: CAN 99:51968
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Chromatography (of organophosphorus pesticides); Food analysis; Tomato (organophosphorus pesticides detn. in, gas-chromatog.); Pesticides (phosphorus-contg., detn. of, in food, gas-chromatog.)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 56-72-4; 60-51-5; 62-73-7; 78-34-2; 86-50-0; 97-17-6; 115-26-4; 115-90-2; 121-75-5; 122-14-5; 141-66-2; 297-97-2; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 311-45-5; 327-98-0; 333-41-5; 470-90-6; 500-28-7; 563-12-2; 732-11-6; 786-19-6; 919-76-6; 919-86-8; 944-22-9; 950-37-8; 1031-47-6; 1113-02-6; 2104-96-3; 2275-14-1; 2275-23-2; 2310-17-0; 2540-82-1; 2642-71-9; 2921-88-2; 3689-24-5; 4824-78-6; 5131-24-8; 6923-22-4; 7786-34-7; 8065-62-1; 10311-84-9; 13171-21-6; 13457-18-6; 17040-19-6; 22248-79-9; 23560-59-0; 24017-47-8; 29232-93-7; 30560-19-1; 38260-54-7; 60238-56-4 Role: ANT (Analyte), PEP (Physical, engineering or chemical process), ANST (Analytical study), PROC (Process) (gas chromatog. of, organophosphorus pesticides detn. in food in relation to) Two-dimensional gas chromatog. with 2 capillary columns of different polarity (SP 2100 and OV 225) is used for pesticide residue anal. in food samples. By means of live chromatog. applying the pneumatic switching technique of D. R. Deans (1968), unequivocal identification of 57 organophosphorus pesticides in food samples is achieved at trace concns. The instrument is equipped with only 1 injection port and 1 flame photometric detector. On-line data processing is very helpful, esp. in calibration and checking the system's reliability with the multitude of test compds. The complete pesticide residue anal. including clean-up of .apprx.6 food samples can be completed by 1 person in 8 h. [on SciFinder (R)] 0344-7138 organophosphorus/ pesticide/ detn/ food;/ gas/ chromatog/ organophosphorus/ pesticide

1222. Stan, H. J. and Mueller, H. M (1988). Evaluation of automated and manual hot-splitless, cold-splitless (PTV), and on-column injection technique using capillary gas chromatography for the analysis for organophosphorus pesticides. *HRC & CC, Journal of High Resolution Chromatography and Chromatography Communications* 11: 140-3.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1988:163143
Chemical Abstracts Number: CAN 108:163143
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 17, 80
Document Type: Journal
Language: written in English.
Index Terms: Chromatography (of organophosphorus pesticides, injection modes comparison in); Pesticides (phosphorus-contg., gas chromatog. of residues of, different injection modes for)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 78-34-2 (Dioxathion); 115-90-2 (Fensulfothion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 299-84-3 (Fenchlorfos); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbofenothion); 944-22-9 (Fonofos); 2275-14-1 (Phenkapton); 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2642-71-9 (Azinphos-ethyl); 4824-78-6; 5131-24-8 (Ditalimfos); 13194-48-4 (Ethoprophos); 34643-46-4

(Prothiofos) Role: ANT (Analyte), ANST (Analytical study) (detn. of, by gas chromatog., using different injection modes) Three different injection modes were compared for the anal. of organophosphorus pesticides. Cold splitless injection with a programmed temp. vaporization (PTV) is of great potential for residues anal. Results with on-column injection of thermolabile and polar compds. as trichlorfon cannot be matched by PTV injection but, in comparison to hot-splitless technique, substance losses were considerably lower. Reproducibility of PTV sampling lies between that of the on-column and the hot-splitless techniques. Relative peak areas and std. deviations of 23 pesticides applying different injection modes are tabulated. [on SciFinder (R)] 0344-7138 pesticide/ residue/ gas/ chromatog/ injection/ mode

1223. Stan, Hans Juergen (1989). Application of capillary gas chromatography with mass selective detection to pesticide residue analysis. *Journal of Chromatography* 467: 85-98.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1989:207689
Chemical Abstracts Number: CAN 110:207689
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 17, 80
Document Type: Journal
Language: written in English.
Index Terms: Mass spectroscopy (capillary gas chromatog. combined with, for detection of pesticide residues); Pesticides (detn. of residues of, by capillary gas chromatog.-mass spectrometry); Chromatography (mass spectrometry detection combined with, for anal. of pesticide residues)
CAS Registry Numbers: 50-29-3; 53-19-0; 55-38-9; 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 97-17-6 (Dichlofenthion); 99-30-9; 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (HCB); 122-14-5 (Fenitrothion); 133-07-3 (Folpet); 298-00-0 (Parathion-methyl); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 309-00-2 (Aldrin); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 500-28-7 (Chlorthion); 563-12-2 (Ethion); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 919-76-6 (Amidithion); 944-22-9 (Fonofos); 1024-57-3; 1085-98-9 (Dichlofluanid); 1194-65-6 (Dichlobenil); 1582-09-8 (Trifluralin); 1861-32-1; 1897-45-6 (Chlorothalonil); 1918-16-7 (Propachlor); 2104-96-3 (Bromophos); 2275-14-1 (Phenkapton); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2540-82-1 (Formothion); 2642-71-9 (Azinphos-ethyl); 2675-77-6 (Chloroneb); 3424-82-6; 3689-24-5 (Sulfotep); 4824-78-6 (Bromophos-ethyl); 5131-24-8 (Ditalimfos); 5836-10-2 (Chloropropylate); 7786-34-7 (Mevinphos); 10311-84-9 (Dialifos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 14437-17-3 (Chlorfenprop-methyl); 18181-80-1 (Bromopropylate); 22248-79-9 (Tetrachlorvinphos); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24934-91-6 (Chlormephos); 29232-93-7 (Pirimiphos-methyl); 34643-46-4; 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin) Role: ANST (Analytical study) (detn. of residues of, by capillary gas chromatog.-mass spectrometry) A random sample of 76 pesticides with good gas chromatog. properties has been collected in order to test the applicability of the mass selective detector HP MSD for pesticide residue anal. Using a capillary column, mass spectra of good quality were produced with 10 or 20 ng of each pesticide. Seventy-two compds. were not only identified at this concn. with the PBM (probability based matching) search routine in the NBS library, but also remarkably with the best fit in the corresponding hit list. Lower concns. can be detected only with selected ion monitoring (SIM). A mixt. of 18 chlorinated pesticides was added to green pepper at the 10 ppb level. All compds. were detected with SIM using special time programming in one gas chromatog. anal. The detection sensitivity of the mass selective detector in SIM mode approaches that of established selective detectors. The reliability of the results with

respect to the identity of a pesticide residue, however, is orders of magnitude better. Therefore, this detector is a valuable tool for performing confirmatory anal. [on SciFinder (R)] 0021-9673 pesticide/ residue/ gas/ chromatog/ mass/ spectrometry

1224. Stan, Hans-Juergen and Goebel, Heiderose (1983). Automated capillary gas chromatographic analysis of pesticide residues in food. *Journal of Chromatography* 268: 55-69.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1983:574308
Chemical Abstracts Number: CAN 99:174308
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in food, gas chromatog.); Food analysis (pesticide detn. in, gas chromatog.)
CAS Registry Numbers: 55-38-9; 56-38-2; 60-51-5; 62-73-7; 78-34-2; 86-50-0; 97-17-6; 115-26-4; 115-90-2; 121-75-5; 122-14-5; 141-66-2; 297-97-2; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 311-45-5; 333-41-5; 470-90-6; 500-28-7; 563-12-2; 732-11-6; 786-19-6; 919-76-6; 919-86-8; 944-22-9; 950-37-8; 1031-47-6; 1113-02-6; 2275-14-1; 2275-23-2; 2310-17-0; 2540-82-1; 2642-71-9; 2921-88-2; 3689-24-5; 4824-78-6; 5131-24-8; 6923-22-4; 7786-34-7; 8065-62-1; 10311-84-9; 13171-21-6; 13457-18-6; 22248-79-9; 23560-59-0; 24017-47-8; 29232-93-7; 38260-54-7; 60238-56-4 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in food, gas chromatog.); 59330-48-2 Role: BIOL (Biological study) (std. for pesticide detn. in food by gas chromatog.) A method for multiresidue pesticide anal. in food is described. After a conventional clean-up, gas chromatog. anal. is performed in a gas chromatograph equipped with 2 fused-silica capillary columns coated with methylsilicone SP 2100 and methylphenylsilicone OV-17. The effluent from each column is split to electron capture and detectors, which are connected to a dual channel integrator. Therefore, from each gas chromatog. run parallel records of signals from the 2 detectors are obtained. Calibration of the system is carried out for the SP 2100 column with 3 test mixts. covering all pesticides. Addnl., 4 internal stds. are included, responding to the electron-capture detector and other 2 to the N-P detector. Automated anal. is performed with test matter and food samples on the SP 2100 column overnight as a screening procedure. After selection of pos. samples a confirmatory test and quantitation are carried out manually applying appropriate test mixts. according to the results of the screening runs. [on SciFinder (R)] 0021-9673 pesticide/ detn/ food/ gas/ chromatog

1225. Stan, Hans-Juergen and Linkerhaegner, Manfred (1996). Pesticide residue analysis in foodstuffs applying capillary gas chromatography with atomic emission detection. State-of-the-art use of modified multimethod S19 of the Deutsche Forschungsgemeinschaft and automated large-volume injection with programmed-temperature vaporization and solvent venting. *Journal of Chromatography, A* 750: 369-390.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:727075
Chemical Abstracts Number: CAN 126:73875
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Electron emission (at.; pesticide residue anal. in foodstuffs applying capillary gas

chromatog. with at. emission detection); Broccoli; Capillary gas chromatography; Food analysis; Food contamination; Pesticides (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with at. emission detection)
CAS Registry Numbers: 50-29-3 (DDT); 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorfon); 53-19-0; 54-11-5 (Nicotine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8 (DDD); 72-55-9 (DDE); 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 80-06-8 (Chlorfenethol); 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 82-68-8 (Quintozene); 83-26-1 (Pindone); 84-65-1 (Anthraquinone); 86-50-0 (Azinphos methyl); 87-82-1 (Hexabromobenzene); 87-86-5 (Pentachlorophenol); 88-85-7 (Dinoseb); 90-43-7 (2-Phenylphenol); 90-98-2 (4,4'-Dichlorobenzophenone); 94-75-7 (2,4-D); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 101-27-9 (Barbane); 101-42-8 (Fenuron); 103-17-3 (Chlorbenside); 103-33-3 (Azobenzene); 107-49-3 (TEPP); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 117-80-6 (Dichlone); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 132-66-1 (Naptalam); 133-06-2 (Captan); 133-07-3 (Folpet); 139-40-2 (Propazin); 140-57-8 (Aramite); 141-66-2 (Dicrotophos); 143-50-0 (Chlordecone); 150-50-5; 297-97-2 (Thionazin); 297-99-4; 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 301-12-2 (Oxydemeton methyl); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 314-40-9 (Bromacil); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 327-98-0 (Trichloronate); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 485-31-4 (Binapacryl); 500-28-7 (Chlorthion); 510-15-6 (Chlorobenzilate); 533-74-4 (Dazomet); 534-52-1 (DNOC); 563-12-2 (Ethion); 584-79-2 (Allethrin); 608-93-5 (Pentachlorobenzene); 640-15-3 (Thiometon); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 789-02-6; 834-12-8 (Ametryne); 841-06-5 (Methoprotryne); 886-50-0 (Terbutryn); 919-76-6 (Amidithion); 919-86-8; 944-22-9 (Fonofos); 950-35-6 (Paraoxon methyl); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (a-Endosulfan); 973-21-7 (Dinobuton); 1007-28-9; 1014-69-3 (Desmetryn); 1014-70-6 (Simetryn); 1024-57-3 (cis-Heptachlor epoxide); 1031-07-8 (Endosulfan-sulfate); 1031-47-6 (Triamiphos); 1085-98-9 (Dichlofluanid); 1086-02-8 (Pyridinitril); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1166-47-8; 1194-65-6 (Dichlobenil); 1420-07-1 (Dinoterb); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-17-9 (Atratone); 1610-18-0 (Prometon); 1634-78-2 (Malaoxon); 1689-83-4 (Ioxynil); 1689-84-5 (Bromoxynil); 1698-60-8 (Chloridazon); 1715-40-8 (Bromocyclen); 1746-81-2 (Monolinuron); 1836-75-5 (Nitrofen); 1861-40-1 (Benfluralin); 1897-45-6; 1912-24-9 (Atrazine); 1912-26-1 (Trietazine); 1918-13-4 (Chlorthiamid); 1918-16-7 (Propachlor); 1918-18-9 (SWEP); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2163-69-1 (Cycluron); 2164-08-1 (Lenacil); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2227-13-6 (Tetrasul); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2303-17-5 (Triallate); 2307-68-8 (Pentanochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2314-09-2 (Flurenol butyl); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2439-01-2 (Chinomethionat); 2463-84-5 (Dicapthon); 2540-82-1 (Formothion); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos ethyl); 2675-77-6 (Chloroneb); 2686-99-9 (3,4,5-Landrin); 2813-95-8 (Dinoseb acetate); 2921-88-2 (Chlorpyrifos); 2941-55-1 (Ethiolate); 3060-89-7 (Metobromuron); 3204-27-1 (Dinoterb acetate); 3397-62-4; 3424-82-6; 3689-24-5 (Sulfotep); 3766-81-2 (Fenobucarb); 3878-19-1 (Fuberidazol); 4147-51-7 (Dipropetryn); 4658-28-0 (Aziprotryne); 4710-17-2; 4726-14-1 (Nitralin); 4824-78-6 (Bromophos ethyl); 5131-24-8 (Ditalimfos); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5284-41-3; 5598-13-0 (Chlorpyrifos methyl); 5707-69-7 (Drazoxolon); 5836-10-2 (Chloropropylate); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6164-98-3 (Chlordimeform); 6190-65-4; 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7286-69-3 (Sebuthylazine); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10552-74-6

(Nitrothal isopropyl); 12771-68-5 (Ancymidol); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14255-88-0 (Fenazaflor); 14816-18-3 (Phoxim); 15299-99-7 (Napropamide); 15310-01-7 (Benodanil); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16118-49-3 (Carbetamide); 17040-19-6 (Demeton S methyl sulfone); 17109-49-8 (Edifenphos); 17708-57-5; 17708-58-6; 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazon); 20354-26-1 (Methazole); 21087-64-9 (Metribuzin); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 21923-23-9 (Chlorthiophos I); 22212-55-1 (Benzoylprop ethyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 22936-75-0 (Dimethametryn); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos ethyl); 23560-59-0 (Heptenophos); 23564-05-8 (Thiophanate methyl); 23564-06-9 (Thiophanate ethyl); 23783-98-4; 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24579-73-5 (Propamocarb); 24691-80-3 (Fenfuram); 24934-91-6 (Chlormephos); 25057-89-0 (Bentazone); 25059-80-7 (Benazolin ethyl); 25311-71-1 (Isofenphos); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 27314-13-2 (Norflurazon); 28044-83-9 (trans-Heptachlor epoxide); 28249-77-6 (Thiobencarb); 28730-17-8 (Methfuroxam); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 30979-48-7 (Isocarbamide); 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 31895-21-3 (Thiocyclam); 32809-16-8 (Procymidone); 33089-61-1 (Amitraz); 33213-65-9 (b-Endosulfan); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34256-82-1 (Acetochlor); 34643-46-4 (Prothiophos); 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35575-96-3 (Azamethiphos); 36734-19-7 (Iprodione); 36756-79-3 (Tiocarbazil); 37893-02-0 (Flubenzimine); 38260-54-7 (Etrimfos); 39196-18-4 (Thiofanox); 39205-60-2; 39300-45-3; 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazofos); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51235-04-2; 52315-07-8; 52645-53-1; 52756-22-6 (Flamprop isopropyl); 52918-63-5 (Deltamethrin); 53780-34-0 (Mefluidide); 55179-31-2; 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55290-64-7 (Dimethipin); 55512-33-9 (Pyridate); 57018-04-9 (Tolclofos methyl); 57052-04-7 (Isomethiozin); 57369-32-1 (Pyroquilone); 57375-63-0 (Phenisopham); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58138-08-2 (Tridiphane); 59756-60-4 (Fluridone); 60168-88-9 (Fenarimol); 60207-31-0 (Azaconazole); 60568-05-0 (Furmecyclox); 61213-25-0 (Flurochloridone); 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66246-88-6 (Penconazole); 66290-20-8; 66290-21-9; 66840-71-9; 67129-08-2 (Metazachlor); 67375-30-8; 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 67890-39-5; 67890-40-8; 69581-33-5 (Cyprofuram); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 74430-92-5; 74430-94-7; 74782-23-3 (Oxabetrinil); 75736-33-3 (Diclobutrazol); 76578-14-8 (Quizalofop ethyl); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 77503-28-7 (Chlorthiophos III); 77503-29-8 (Chlorthiophos II); 77732-09-3 (Oxadixyl); 79241-46-6; 79983-71-4 (Hexaconazole); 81406-37-3; 82097-50-5 (Triasulfuron); 82558-50-7 (Isoxaben); 82657-04-3 (Bifenthrin); 83164-33-4 (Diflufenican); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazol); 88671-89-0 (Myclobutanil); 96489-71-3 (Pyridaben); 98919-83-6; 102851-06-9; 103827-27-6 (Pirimiphos); 107534-96-3 (Tebuconazole); 112721-87-6; 116255-48-2 (Bromuconazole); 120523-07-1; 120523-08-2; 133855-98-8 (Epoxiconazole); 135757-91-4 Role: ANT (Analyte), BOC (Biological occurrence), BSU (Biological study, unclassified), PRP (Properties), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence) (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with at. emission detection) At. emission detection (AED) provides high element-specific detection of all compds. amenable to gas chromatog. (GC). The heteroatoms N, Cl, P, S, Br and F, which are important elements in pesticide residue anal., are of major interest. A main drawback of AED is its lower sensitivity with respect to other selective detection methods used in pesticide residue anal. such as electron-capture and N-P detection. This holds true esp. for the important N trace. For this reason, more sensitive detection can be achieved by injection of larger vols. or higher concns. of sample exts., because matrix compds. were usually registered only in the C, H, O traces. This paper focuses on recent developments from the authors' lab. to demonstrate the feasibility of screening analyses with the identification of pesticide residues down to the 0.01 ppm concn. level in plant foodstuffs. This has been achieved by means of automated large vol. injection with programmed-temp. vaporization and solvent venting as well as careful optimization of make-up and reactant gases with AED. Clean up follows the principle of multimethod S19 of the Deutsche Forschungsgemeinschaft in a reduced procedure. After elimination of lipids and waxes by gel permeation chromatog., exts. from 10 g of the food samples were concd. to 200 ml, of which 12.5 ml were introduced into the GC-AED system. Two analyses were usually performed with the element traces of S, P, N, and C in the 1st run and Cl and Br in the 2d run. F and O were not detected in any screening analyses. The method has proved to be of great value esp. with \"problem foodstuffs\". The limits of detection were detd. for 385 pesticides and are presented together with their retention data. [on SciFinder (R)] 0021-9673 pesticide/ detection/ foodstuff/ capillary/ gas/ chromatog

1226. Stan, Hans Juergen and Mrowetz, Dieter (1983). Residue analysis of pesticides in food by two-dimensional gas chromatography with capillary columns and parallel detection with flame-photometric and electron-capture detection. *Journal of Chromatography* 279: 173-87.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1984:66683
Chemical Abstracts Number: CAN 100:66683
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in food, gas chromatog.); Chromatography (of pesticides); Food analysis (pesticides detn. in, gas chromatog.)
CAS Registry Numbers: 50-29-3; 52-68-6; 55-38-9; 56-38-2; 56-72-4; 58-89-9; 60-51-5; 60-57-1; 62-73-7; 72-20-8; 72-43-5; 72-54-8; 72-55-9; 76-44-8; 78-34-2; 80-33-1; 82-68-8; 86-50-0; 87-61-6; 97-17-6; 99-30-9; 101-27-9; 103-17-3; 115-26-4; 115-29-7; 115-90-2; 116-29-0; 117-18-0; 117-80-6; 118-74-1; 121-75-5; 122-14-5; 133-06-2; 133-07-3; 141-66-2; 297-97-2; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 309-00-2; 311-45-5; 319-84-6; 319-85-7; 327-98-0; 333-41-5; 470-90-6; 485-31-4; 500-28-7; 510-15-6; 563-12-2; 732-11-6; 786-19-6; 919-76-6; 919-86-8; 944-22-9; 950-37-8; 1024-57-3; 1031-47-6; 1085-98-9; 1113-02-6; 1194-65-6; 1582-09-8; 1861-32-1; 1897-45-6; 1918-13-4; 1918-16-7; 2104-96-3; 2227-13-6; 2275-14-1; 2275-23-2; 2303-17-5; 2310-17-0; 2385-85-5; 2425-06-1; 2439-01-2; 2540-82-1; 2642-71-9; 2813-95-8; 2921-88-2; 3689-24-5; 4824-78-6; 5131-24-8; 5259-88-1; 6923-22-4; 7786-34-7; 8065-62-1; 10311-84-9; 10552-74-6; 13171-21-6; 13457-18-6; 14255-88-0; 14437-17-3; 17040-19-6; 21087-64-9; 22248-79-9; 23560-59-0; 24017-47-8; 29232-93-7; 30560-19-1; 32809-16-8; 36734-19-7; 38260-54-7; 41483-43-6; 43121-43-3; 50471-44-8; 52645-53-1; 60238-56-4 Role: ANT (Analyte), PEP (Physical, engineering or chemical process), ANST (Analytical study), PROC (Process) (gas chromatog. of) Two-dimensional gas chromatog. on 2 capillary columns was used for pesticide residue anal. in food samples. Both columns were connected by effluent splitting to the selective flame-photometric and electron-capture detectors, which were linked on-line to independent data processing channels. About 100 halogenated and organophosphorus pesticides, together with 3 internal stds., were screened on the first column with methylsilicone as the stationary phase. The compds. were recognized by their retention data and response to the 2 selective detectors. In a 2nd anal., peaks eluted from the 1st column were transferred by pneumatic switching to the 2nd column with phenylcyanopropylmethylsilicone as the stationary phase. This cutting of narrow fractions could be executed with high accuracy and reproducibility (live chromatog.) by using time programming of the cutting valve. The final identification of all investigated pesticides was achieved by evaluating the set of linked retention data and, addnl., the response ratio of the 2 detectors characteristic for each compd. Application of the method to 2 real food samples, fortified with chlorinated and organophosphorus pesticides, was demonstrated. [on SciFinder (R)] 0021-9673 pesticide/ detn/ food;/ gas/ chromatog/ pesticide

1227. Stan, Hans-Jurgen (2000). Pesticide residue analysis in foodstuffs applying capillary gas chromatography with mass spectrometric detection. State-of-the-art use of modified DFG-multi-method S19 and automated data evaluation. *Journal of Chromatography, A* 892: 347-377.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2000:700166
Chemical Abstracts Number: CAN 133:334213
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry; Mass spectrometry (gas chromatog. combined with, capillary; pesticide residue anal. in foodstuffs applying); Gas chromatography; Gas chromatography (mass spectrometry combined with, capillary; pesticide residue anal. in foodstuffs applying); Food contamination (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection); Cinerins; Pyrethrins Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection); Food analysis (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection in); Pesticides (residue; anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection)
CAS Registry Numbers: 50-29-3; 51-03-6 (Piperonyl butoxide); 52-68-6 (Trichlorfon); 53-19-0; 53-60-1 (Propazine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 72-56-0 (Perthane); 76-44-8 (Heptachlor); 78-48-8; 80-33-1 (Chlorfenson); 80-38-6 (Fenson); 82-68-8 (Quintozene); 84-61-7; 84-62-8; 84-66-2; 84-69-5; 84-74-2; 85-41-6 (Isoindole-1,3-dione); 85-68-7; 86-50-0 (Azinphos-methyl); 87-82-1 (Hexabromobenzene); 87-86-5; 88-85-7 (Dinoseb); 90-43-7 (2-Phenylphenol); 90-98-2; 92-52-4 (Biphenyl); 95-76-1 (3,4-Dichloroaniline); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 101-27-9 (Barban); 102-36-3 (3,4-Dichlorophenylisocyanate); 103-17-3 (Chlorbenside); 103-33-3 (Azobenzene); 106-47-8 (4-Chloroaniline); 107-49-3 (TEPP); 114-26-1 (Propoxur); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 117-80-6 (Dichlone); 117-81-7; 117-84-0 (Phthalic acid dioctyl ester); 118-74-1 (Hexachlorobenzene); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 131-11-3; 131-16-8; 133-06-2 (Captan); 133-07-3 (Folpet); 140-57-8 (Aramite); 141-66-2 (Dicrotophos); 148-79-8 (Thiabendazole); 150-50-5 (Merphos); 297-97-2 (Thionazin); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 300-76-5 (Naled); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 314-40-9 (Bromacil); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 327-98-0 (Trichloronat); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 485-31-4 (Binapacryl); 500-28-7 (Chlorthion); 510-15-6 (Chlorobenzilate); 533-74-4 (Dazomet); 534-52-1 (DNOC); 563-12-2 (Ethion); 584-79-2 (Allethrin); 608-93-5 (Pentachlorobenzene); 640-15-3 (Thiometon); 709-98-8 (Propanil); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 789-02-6; 834-12-8 (Ametryne); 841-06-5 (Methoprotryne); 886-50-0 (Terbutryn); 919-76-6 (Amidithion); 919-86-8 (Demeton-S-methyl); 933-78-8 (2,3,5-Trichlorophenol); 944-22-9 (Fonofos); 950-35-6 (Paraoxon-methyl); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (a-Endosulfan); 973-21-7 (Dinobuton); 1007-28-9 (Desisopropylatrazine); 1014-69-3 (Desmetryne); 1014-70-6 (Simetryn); 1024-57-3; 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1593-77-7 (Dodemorph); 1610-17-9 (Atraton); 1610-18-0 (Prometon); 1634-78-2 (Malaoxon); 1689-83-4 (Ioxynil); 1689-84-5 (Bromoxynil); 1713-15-1 (2,4-D Isobutyl ester); 1715-40-8 (Bromocyclen); 1746-81-2 (Monolinuron); 1836-75-5 (Nitrofen); 1861-32-1 (Chlorthal-dimethyl); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-26-1 (Trietazine); 1918-16-7 (Propachlor); 1918-

18-9 (Swep); 1928-37-6 (2,4,5-T, Methyl ester); 1928-38-7 (2,4-D Methyl ester); 1929-77-7 (Vernolate); 1929-82-4 (Nitrapyrin); 1967-16-4 (Chlorbufam); 2008-41-5 (Butylate); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2163-69-1 (Cycluron); 2164-08-1 (Lenacil); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2227-13-6 (Tetrasul); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2307-68-8 (Pentanochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2314-09-2 (Flurenol-butyl); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2436-73-9 ((2-Methyl-4-chlorophenoxy)acetic acid Methyl ester); 2439-01-2 (Quinomethionate); 2536-31-4 (Chlorflurenol-methyl); 2540-82-1 (Formothion); 2593-15-9 (Etridiazole); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2675-77-6 (Chloroneb); 2686-99-9 (3,4,5-Landrin); 2813-95-8 (Dinoseb acetate); 2921-88-2 (Chlorpyrifos); 2941-55-1 (Ethiolate); 3060-89-7 (Metobromuron); 3397-62-4 (Desethyldesisopropylatrazine); 3424-82-6; 3689-24-5 (Sulfotep); 3878-19-1 (Fuberidazole); 4147-51-7 (Dipropetryn); 4466-14-2; 4658-28-0 (Aziprotryne); 4710-17-2 (DMSA); 4726-14-1 (Nitralin); 4824-78-6 (Bromophos-ethyl); 5131-24-8 (Ditalimphos); 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5598-13-0 (Chlorpyrifos-methyl); 5836-10-2 (Chloropropylate); 5915-41-3 (Terbuthylazine); 6164-98-3 (Chlordimeform); 6190-65-4 (Desethylatrazine); 6923-22-4 (Monocrotophos); 7012-37-5 (PCB 28); 7286-69-3 (Sebuthylazine); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10453-86-8 (Resmethrin); 10552-74-6 (Nitrothal-isopropyl); 12771-68-5 (Ancymidol); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 14214-32-5 (Difenoxuron); 14255-88-0 (Fenazaflor); 14437-17-3 (Chlorfenprop-methyl); 14816-18-3 (Phoxim); 15299-99-7 (Napropamide); 15310-01-7 (Benodanil); 15457-05-3 (Fluorodifen); 15972-60-8 (Alachlor); 16118-49-3 (Carbetamide); 18181-70-9 (Jodfenphos); 18181-80-1 (Bromopropylate); 18625-12-2 (2,4-DB Methyl ester); 19666-30-9 (Oxadiazon); 20354-26-1 (Methazole); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22212-55-1 (Benzoylprop-ethyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 23844-56-6 (Mecoprop Methyl ester); 23844-57-7 (Methyl Dichlorprop); 23950-58-5 (Propyzamide); 24017-47-8 (Triazophos); 24579-73-5 (Propamocarb); 24934-91-6 (Chlormephos); 25057-89-0 (Bentazone); 25059-80-7 (Benazolin-ethyl); 25311-71-1 (Isofenphos); 26002-80-2 (Phenothrin); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0 (Profluralin); 27314-13-2 (Norflurazon); 28044-83-9; 28553-12-0; 29232-93-7 (Pirimiphos-methyl); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 30864-28-9 (Methacriphos); 31218-83-4 (Propetamphos); 31251-03-3 (Fluotrimazole); 31895-21-3 (Thiocyclam); 32809-16-8 (Procymidone); 33089-61-1 (Amitraz); 33213-65-9 (b-Endosulfan); 33245-39-5 (Fluchloralin); 33629-47-9 (Butralin); 33693-04-8 (Terbumeton); 33820-53-0 (Isopropalin); 34256-82-1 (Acetochlor); 34643-46-4 (Prothiophos); 35065-27-1 (PCB 153); 35065-28-2 (PCB 138); 35065-29-3 (PCB 180); 35256-85-0 (Tebutam); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35575-96-3 (Azamethiphos); 35693-99-3 (PCB 52); 36734-19-7 (Iprodione); 36756-79-3 (Tiocarbazil); 37680-73-2 (PCB 101); 37893-02-0 (Flubenzimine); 38260-54-7 (Etrimfos); 39300-45-3 (Dinocap); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 41483-43-6 (Bupirimate); 42509-80-8 (Isazophos); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51235-04-2; 51338-27-3 (Diclofop-methyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52756-22-6 (Flamprop-isopropyl); 52888-80-9 (Prosulfocarb); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55290-64-7 (Dimethipin); 57018-04-9 (Tolclofos-methyl); 57052-04-7 (Isomethiozin); 57837-19-1 (Metalaxyl); 57966-95-7 (Cymoxanil); 58138-08-2 (Tridiphane); 58810-48-3 (Ofurace); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 60207-93-4 (Etaconazole); 61213-25-0 (Flurochloridone); 62924-70-3 (Flumetralin); 63284-71-9 (Nuarimol); 65907-30-4 (Furathiocarb); 66063-05-6 (Pencycuron);

66246-88-6 (Penconazole); 67129-08-2 (Metazachlor); 67306-00-7 (Fenpropidin); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69335-91-7 (Fluazifop); 69377-81-7 (Fluroxypyr); 69409-94-5 (Fluvalinate); 69581-33-5 (Cyprofuram); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 74070-46-5 (Aclonifen); 74738-17-3 (Fenpiclonil); 75736-33-3 (Diclobutrazol); 76578-14-8 (Quizalofop-ethyl); 76674-21-0 (Flutriafol); 76738-62-0 (Paclobutrazol); 77501-90-7 (Fluoroglycofen-ethyl); 77732-09-3 (Oxadixyl); 79241-46-6; 79622-59-6 (Fluazinam); 79983-71-4 (Hexaconazole); 81777-89-1 (Clomazone); 82558-50-7 (Isoxaben); 82657-04-3 (Bifenthrin); 84332-86-5 (Chlozolinate); 85509-19-9 (Flusilazole); 87130-20-9 (Diethofencarb); 87674-68-8 (Dimethenamid); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 95465-99-9 (Cadusafos); 96489-71-3 (Pyridaben); 107534-96-3 (Tebuconazole); 110235-47-7 (Mepanipyrim); 112281-77-3 (Tetraconazole); 116255-48-2 (Bromuconazole); 118134-30-8 (Spiroxamine); 119168-77-3 (Tebufenpyrad); 120928-09-8 (Fenazaquin); 121552-61-2 (Cyprodinil); 124495-18-7 (Quinoxyfen); 131341-86-1 (Fludioxonil); 133855-98-8 (Epoxiconazole); 135590-91-9 (Mefenpyr-diethyl); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticide residue anal. in foodstuffs applying capillary gas chromatog. with mass spectrometric detection)
Citations: 1) Luke, M; J Assoc Off Anal Chem 1975, 58, 1020
Citations: 2) Koinecke, A; Fresenius J Anal Chem 1994, 349, 301
Citations: 3) Specht, W; Fresenius J Anal Chem 1995, 353, 183
Citations: 4) Krijgsmann, W; J Chromatogr 1976, 177, 201
Citations: 5) Stan, H; J Chromatogr 1983, 268, 55
Citations: 6) Andersson, A; J Anal Chem 1991, 339, 365
Citations: 7) Tindle, R; Anal Chem 1972, 44, 1768
Citations: 8) Specht, W; Fresenius Z Anal Chem 1980, 301, 300
Citations: 9) Specht, W; Fresenius J Anal Chem 1985, 322, 443
Citations: 10) Roos, A; Anal Chim Acta 1987, 196, 95
Citations: 11) Stan, H; J Chromatogr 1989, 467, 85
Citations: 12) Pensyna, G; Anal Chem 1976, 48, 1362
Citations: 13) Stan, H; HP Pesticide Library 1989
Citations: 14) Fillion, J; J Selwyn, JAOAC Int 1995, 78, 1252
Citations: 15) de Kok, A; Poster Presented at the 2nd European Pesticide Residue Workshop 1998
Citations: 16) Stan, H; J Chromatogr A 1996, 750, 369
Citations: 17) Wiley, P; Abstracts of the 1st European Pesticide Residue Workshop 1996
Citations: 18) Cook, J; JAOAC Int 1999, 82, 313
Citations: 19) Stan, H; Intell Instrum & Comp 1987, 5, 103
Citations: 20) Goebel, H; J Chromatogr 1983, 279, 523
Citations: 21) Stan, H; in preparation
Citations: 22) Asmussen, C; J High Resolut Chromatogr 1998, 21, 597
Citations: 23) van der Hoff, G; J Chromatogr A 1999, 843, 301
Citations: 24) van Zoonen, P; Analytical Methods for Pesticides Residues in Foodstuffs, The Inspectorate for Health Protection, Ministry of Public Health, Welfare and Sport, 6th ed 1996
Citations: 25) Anon; Methodensammlung zur Ruckstandsanalytik vor Pflantzenschutzmitteln 1991, 1
Citations: 26) Health Protection Branch; Manual on Analytical Methods on Pesticide Residues in Foods 1985, 107
Citations: 27) Food And Drug Administration; Pesticide Analytical Methods 1 1994
Citations: 28) Anon; Materials and Methods Used for Pesticide Residues Monitoring in Sweden 1986, 38(Suppl 2), 79
Citations: 29) Tuinstra, L; J Chromatogr 1991, 552, 259
Citations: 30) Sojo, L; J Chromatogr A 1997, 788, 141
This paper focuses on recent developments in the author's lab. and reports on the \"ultimate\" anal. scheme which has evolved over the last 20 yr. This demonstrates the feasibility of screening analyses for pesticide residue identification, mainly by full scan GC-MS, down to the 0.01 ppm concn. level in plant foodstuffs. It is based on a miniaturized DFG S19 extn. applying acetone for extn. followed by liq.-liq. extn. with Et acetate-cyclohexane followed by gel permeation chromatog. The final chromatog. detn. is carried

out with a battery of 3 parallel operating gas chromatog. systems using effluent splitting to electron-capture and nitrogen-phosphorus detection, one with a SE-54 the other with a OV-17 capillary column and the 3rd one with a SE-54 capillary column and mass selective detection for identification and quantitation. The method is established for monitoring >400 pesticides amenable to gas chromatog. These pesticide residues are identified in screening analyses by means of the dedicated mass spectral library PEST.L contg. ref. mass spectra and retention times of >400 active ingredients and also metabolites applying the macro program AuPest (Automated residue anal. on Pesticides) for automated evaluation which runs with Windows based HP ChemStation software. The 2 gas chromatog. systems with effluent splitting to electron-capture and nitrogen-phosphorus detection are used to check the results obtained with the automated GC-MS screening and also to detect those few pesticides which exhibit better response to electron-capture and nitrogen-phosphorus detection than to mass spectrometry in full scan. [on SciFinder (R)] 0021-9673 pesticide/ residue/ detection/ food/ GC/ MS

1228. Staples, R. E. (1979). Teratology. *Assoc.Off.Anal.Chem.J.* 62: 833-839.
Chem Codes: Chemical of Concern: PSM Rejection Code: REFS CHECKED/REVIEW.

1229. 19730131). Granular pesticides. 3 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1973:107018
Chemical Abstracts Number: CAN 78:107018
Section Code: 5-13
Section Title: Agrochemicals
Coden: BRXXAA
Index Terms: Pesticides (granular)
CAS Registry Numbers: 94-74-6; 732-11-6; 944-22-9 Role: PROC (Process) (granular formulation of); 471-34-1; 1344-95-2 Role: BIOL (Biological study) (in granular pesticide formulations)
Patent Application Country: Application: GB Granular pesticides are prepd. by spraying relatively nonadsorbent particles into the pesticidal soln., followed by backdrying with a finely divided, highly adsorbent powder, such as Ca silicate, and by repeating the process until the granules are formed with the requisite amt. of pesticide around the nonadsorbent carrier. Thus, 86.5 g CaCO3 chips are treated with 1/3 of a soln. of 5 g N-(mercaptomethyl)phthalimide-S-(O,O-dimethylphosphorodithioate) [732-11-6] in 4 g heavy aromatic naphtha and 1 g of a tall oil fatty acid, followed by the addn. of 1 g Ca silicate. The remaining 2/3 of the soln. were added in 2 portions, together with 1 g Ca silicate each, to give a free-flowing granular product. [on SciFinder (R)] A01N. pesticide/ granule;/ herbicide/ granular/ prepn

1230. 19800229). Insecticidal compositions containing phthalimidothionophosphate and additional thionophosphates as activators. 29 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1980:616688
Chemical Abstracts Number: CAN 93:216688
Section Code: 5-4
Section Title: Agrochemicals
Coden: ISXXAQ
Index Terms: Insecticides (synergists for phthalimidothionophosphate)
CAS Registry Numbers: 4901-37-5; 28519-17-7; 32345-29-2; 59288-81-2; 62450-46-8; 62450-47-9; 62450-48-0; 62450-49-1; 62450-50-4; 62450-51-5; 62450-52-6; 62450-53-7; 62450-54-8; 62450-55-9; 62450-56-0; 62450-57-1; 62450-58-2; 62450-59-3; 62450-60-6; 62450-61-7; 62450-

62-8; 62450-63-9; 62450-64-0; 62450-65-1; 62450-66-2; 62450-67-3; 62450-68-4; 62450-69-5; 62450-70-8; 62450-71-9; 62450-72-0; 62450-73-1; 62450-74-2; 62450-75-3; 62450-76-4; 62450-77-5; 62450-78-6; 62450-79-7; 62487-41-6; 62487-42-7; 63142-44-9; 63142-45-0 Role: BIOL (Biological study) (insecticide synergist); 4829-03-2P; 33576-92-0P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. and insecticidal synergistic activity of); 732-11-6 Role: BIOL (Biological study) (synergists for, thionophosphates as)
Patent Application Country: Application: IL Thionophosphates R2OP(S)(OR)OR1 (I) (where R = R1 = alkyl; R2 = Ph or alkylphenyl) are synergists for N-(mercaptomethyl)phthalimide-S-(O,O-dimethylphosphorodithioate) (II) [732-11-6]. Thus, a compn. contg. I, R = Me; R1 = Me, R2 = phenyl [33576-92-0] and II had an LD50 of 30 mg/25 houseflies, II without the synergist had an LD50 of 5000 and the synergist alone was >104-fold less toxic in studies with houseflies. Similar results were obtained with the other synergists. Some prepn. data for the synergists is given. [on SciFinder (R)] A01N057-14; A01N057-16; C07F009-165; C07F009-65. insecticide/ synergist/ thionophosphate

1231. 19781206). Insecticidal organophosphorus compositions containing activators. 18 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1979:451105
Chemical Abstracts Number: CAN 91:51105
Section Code: 5-4
Section Title: Agrochemicals
CA Section Cross-References: 25
Coden: BRXXAA
Index Terms: Insecticides (synergistic organophosphorus compns. as)
CAS Registry Numbers: 4829-03-2; 4901-37-5; 28519-17-7; 59288-81-2; 62450-46-8; 62450-47-9; 62450-48-0; 62450-49-1; 62450-50-4; 62450-51-5; 62450-52-6; 62450-53-7; 62450-54-8; 62450-55-9; 62450-56-0; 62450-57-1; 62450-58-2; 62450-59-3; 62450-60-6; 62450-61-7; 62450-62-8; 62450-63-9; 62450-65-1; 62450-66-2; 62450-67-3; 62450-68-4; 62450-69-5; 62450-70-8; 62450-71-9; 62450-72-0; 62450-73-1; 62450-74-2; 62450-75-3; 62450-76-4; 62450-77-5; 62450-78-6; 62450-79-7; 62487-41-6; 62487-42-7; 63142-44-9; 63142-45-0; 70820-39-2 Role: BIOL (Biological study) (as phosphorodithioate insecticide activator); 732-11-6 Role: AGR (Agricultural use), BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (insecticidal activity of, phosphorothioate activation of); 32345-29-2P; 33576-92-0P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of as phosphorodithioate insecticide activator); 2524-03-0 Role: RCT (Reactant), RACT (Reactant or reagent) (reaction of, with phenol)
Patent Application Country: Application: GB The insecticidal activity of N-(mercaptomethyl)phthalimide-S-(O,O-dimethylphosphorodithioate) (I) [732-11-6] was increased by including a phosphorothioate (RO)P(S)(OR1)(OR2) (R and R1 = alkyl; R2 = aryl) as activator. (MeO)P(S)(OMe)(OPh) (II) [33576-92-0] was prepd. by reaction of PhOH with O,O-di-Me phosphorochloridothioate [2524-03-0], and a soln. of II (500 mg/mL) was mixed with a soln. of I (100 mg/mL) in the ratio of 5:1. The LD50 of I solns. towards houseflies was reduced by inclusion of II from 5000 to 30 mg, i.e. an activating factor of 166.7. [on SciFinder (R)] A01N009-36; C07F009-165. phosphorodithioate/ insecticide/ activation/ phosphorothioate

1232. Steenhuis, T., Brutsaert, W. H., Frizzola, J. A., Jacobowitz, L. A., and Ringers, B. A. (Estimating Recharge to the Groundwater Reservoir in Suffolk County, New York by Measuring Soil Water Flow. *Govt reports announcements & index (gra&i), issue 24, 1980* .
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: Experimental and theoretical methods for the determination of groundwater recharge were investigated in eastern Long Island, New York. Recharge is the amount of water that percolates through the unsaturated soil to join the groundwater and this has been contaminated

by fertilizers and pesticides in the Long Island area. Technical completion rept.
KEYWORDS: Ground water recharge
KEYWORDS: Soil water
KEYWORDS: Water pollution

1233. Stehouwer Richard, Day Rick L, and Macneal Kirsten E (2006). Nutrient and Trace Element Leaching Following Mine Reclamation With Biosolids. *Journal of Environmental Quality [J. Environ. Qual.]. Vol. 35, no. 4, pp. 1118-1126. Jul 2006.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0047-2425
Descriptors: Article Subject Terms: Acidity
Descriptors: Aluminium
Descriptors: Aluminum
Descriptors: Biosolids
Descriptors: Leachates
Descriptors: Leaching
Descriptors: Mines
Descriptors: Nutrients (mineral)
Descriptors: Pollution monitoring
Descriptors: Reclamation
Descriptors: Trace elements
Descriptors: Vegetation
Descriptors: Water quality
Descriptors: Water quality standards
Descriptors: Water sampling
Descriptors: pH
Descriptors: reclamation
Descriptors: revegetation
Descriptors: water quality
Descriptors: winter
Descriptors: Article Geographic Terms: USA, Pennsylvania
Abstract: Mine reclamation with biosolids increases revegetation success but nutrient addition well in excess of vegetation requirements has the potential to increase leaching of NO sub(3) and other biosolids constituents. A 3-yr water quality monitoring study was conducted on a Pennsylvania mine site reclaimed with biosolids applied at the maximum permitted and standard loading rate of 134 Mg ha super(-1). Zero-tension lysimeters were installed at 1-m depth 1 yr before reclamation: three in the biosolids application area, one in a control area (no biosolids). Before reclamation, all water samples had pH in the range 4.7 to 6.2, acidity <20 mg L super(-1), and very low levels of all other measured parameters. Following reclamation, percolate water in the biosolids-treated area had lower pH and greater acidity than the control area. Acidity was greatest during the first winter following biosolids application, decreased during the spring, and showed a similar pattern but with much smaller concentrations the second year. Maximum first-year leachate NO sub(3) concentrations were similar to 300 mg L super(-1) and half as large the second year. Estimated inorganic N leaching loss during the first 2 yr after biosolids application was 2327 kg N ha super(-1). Aluminum, Mn, Cu, Ni, Pb, and Zn followed similar leaching patterns as did acidity, and their mobilization appeared to be the result of the increased acidity. These results indicate that large applications of low-C/N-ratio biosolids could negatively impact area water quality and that biosolids reclamation practices should be modified to reduce this possibility.
Publisher: American Society of Agronomy Inc., 677 S. Segoe Road Madison WI 53711 USA, [mailto:lhendrickson@agronomy.org]
DOI: 10.2134/jeq2005.0134
Language: English
English
Publication Type: Journal Article

Classification: Q5 01505 Prevention and control
Classification: P 2000 FRESHWATER POLLUTION
Classification: M3 1010 Issues in Sustainable Development
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; Environmental Engineering Abstracts; Sustainability Science Abstracts; Pollution Abstracts

1234. Steinwandter, H (1988). Contributions to the application of gel chromatography in residue analysis. II. A new gel chromatographic system using acetone for the separation of pesticide residues and industrial chemicals. *Fresenius' Zeitschrift fuer Analytische Chemie* 331: 499-502.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1989:2740
Chemical Abstracts Number: CAN 110:2740
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (gel chromatog. of, using acetone-based eluents); Chromatography (of pesticides and other chems. using acetone-based eluents)
CAS Registry Numbers: 50-29-3; 55-38-9 (Fenthion) Role: ANST (Analytical study) (gel chromatog. of, in acetone-based eluents); 56-72-4 (Coumaphos); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7; 72-20-8 (Endrin); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 80-33-1 (Chlorfenson); 86-50-0 (Azinphos-methyl); 90-98-2; 97-17-6 (Dichlofenthion); 103-17-3 (Chlorbensid); 108-43-0; 115-26-4; 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 118-74-1 (HCB); 120-83-2; 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 133-07-3 (Folpet); 141-66-2 (Dicrotophos); 299-84-3 (Fenchlorfos); 300-76-5 (Dibrom); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 485-31-4 (Binapacryl); 500-28-7 (Chlorthion); 563-12-2 (Ethion); 786-19-6 (Carbofenothion); 789-02-6; 834-12-8 (Ametryn); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 950-37-8; 962-58-3 (Diazoxon); 1014-69-3 (Desmetryn); 1024-57-3; 1085-98-9 (Dichlofluanid); 1194-65-6 (Dichlobenil); 1634-78-2 (Malaoxon); 1836-75-5 (Nitrofen); 1912-24-9 (Atrazine); 2104-96-3 (Bromophos-methyl); 2227-17-0 (Dienochlor); 2425-06-1 (Captafol); 2540-82-1 (Formothion); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2675-77-6 (Chloroneb); 2921-88-2 (Chlorpyriphos); 4726-14-1 (Nitralin); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (a-Chlordane); 5131-24-8 (Ditalimfos); 5566-34-7 (g-Chlordane); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 10311-84-9 (Dialifos); 13067-93-1 (Cyanophenphos); 14255-88-0; 15972-60-8 (Alachlor); 17040-19-6; 18181-70-9; 22224-92-6 (Fenamiphos); 23560-59-0 (Heptenophos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 35065-27-1 (2,4,5,2',4',5'-Hexachlorobiphenyl); 35065-28-2 (2,3,4,2',4',5'-Hexachlorobiphenyl); 35065-29-3 (2,3,4,5,2',4',5'-Heptachlorobiphenyl); 38260-54-7 (Etrimfos); 52918-63-5 (Deltamethrin); 60238-56-4 (Chlorthiophos) Role: PROC (Process) (gel chromatog. of, in acetone-based eluents); 56-38-2 (Parathion-ethyl); 87-86-5 (Pentachlorophenol); 95-95-4 (2,4,5-Trichlorophenol); 116-29-0 (Tetradifon); 122-34-9 (Simazine); 139-40-2 (Propazine); 297-97-2 (Zinophos); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 311-45-5 (Paraoxon); 327-98-0 (Trichloronate); 640-15-3 (Thiometon); 731-27-1; 732-11-6 (Phosmet); 950-35-6 (Paraoxon-methyl); 1031-47-6; 1582-09-8 (Trifluralin); 2227-13-6 (Tetrasul); 2275-14-1 (Phenkapton); 2275-23-2 (Vamidothion); 2303-17-5; 2310-17-0 (Phosalone); 3689-24-5 (Sulfotepp); 4901-51-3 (2,3,4,5-Tetrachlorophenol); 7012-37-5 (2,4,4'-Trichlorobiphenyl); 13171-21-6 (Phosphamidon); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 22248-79-9; 24017-47-8; 29232-93-7 (Pirimiphos-methyl); 34643-46-4 (Prothiophos); 35400-43-2; 35693-99-3 (2,5,2',5'-Tetrachlorobiphenyl); 37680-73-2 (2,4,5,2',5'-Pentachlorobiphenyl); 41198-08-7 (Profenofos); 43121-43-3; 50471-44-8 (Vinclozolin); 52645-53-1 (Permethrin); 60207-90-1 Role: PROC (Process) (gel chromatog. of, using acetone-based eluents) A gel-chromatog. sepn. system (Bio-

Beads) using acetone in combination with cyclohexane (acetone-cyclohexane 25:75 gave the best results) and petroleum ether (1:1) as elution solvent is discussed. The elution patterns of >100 pesticides and environmental chems. are detd. with this system. [on SciFinder (R)] 0016-1152 gel/ chromatog/ pesticide/ chem

1235. Stepan, R. , Ticha, J., Hajslova, J., Kovalczuk, T., and Kocourek, V (2005). Baby food production chain: pesticide residues in fresh apples and products. *Food Additives & Contaminants* 22: 1231-1242.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:1315791
Chemical Abstracts Number: CAN 144:211330
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Tandem mass spectrometry (electrospray-ionization; pesticides detn. in fresh apples and products for baby food); Food (infant; pesticides detn. in fresh apples and products for baby food); Mass spectrometry (liq. chromatog. combined with; pesticides detn. in fresh apples and products for baby food); Liquid chromatography (mass spectrometry combined with; pesticides detn. in fresh apples and products for baby food); Extraction; Food analysis; Food contamination; Gas chromatography; Malus pumila; Pesticides (pesticides detn. in fresh apples and products for baby food); Electrospray ionization mass spectrometry (tandem; pesticides detn. in fresh apples and products for baby food)
CAS Registry Numbers: 50-29-3; 53-19-0; 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (g-HCH); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 86-50-0 (Azinphos-methyl); 101-21-3 (Chlorpropham); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 122-42-9 (Propham); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 309-00-2 (Aldrin); 319-84-6 (a-HCH); 319-85-7 (b-HCH); 319-86-8 (d-HCH); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 789-02-6; 950-37-8 (Methidathion); 959-98-8 (Endosulfan-a); 1031-07-8 (Endosulfan sulfate); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3424-82-6; 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13171-21-6 (Phosphamidon); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan-b); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 41483-43-6 (Bupirimate); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55179-31-2 (Bitertanol); 57018-04-9 (Tolclofos-methyl); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 66246-88-6 (Penconazole); 68359-37-5 (Beta-cyfluthrin); 72490-01-8 (Fenoxycarb); 82657-04-3 (Bifenthrin); 91465-08-6 (Cyhalothrin-l); 96489-71-3 (Pyridaben); 107534-96-3 (Tebuconazole); 112143-82-5 (Triazamate); 112281-77-3 (Tetraconazole); 119446-68-3 (Difenoconazole); 121552-61-2 (Cyprodinil); 141517-21-7 (Trifloxystrobin); 143390-89-0 (Kresoxim-methyl) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides detn. in fresh apples and products for baby food)
Citations: Akiyama, Y; Journal of AOAC International 2002, 85, 692
Citations: Andersen, J; Food Additives and Contaminants 2001, 18, 906
Citations: Angioni, A; Food Additives and Contaminants 2004, 21, 1065
Citations: Cabras, P; Journal of Agricultural and Food Chemistry 1998, 46, 2309
Citations: Cabras, P; Journal of Agricultural and Food Chemistry 1998, 46, 2306
Citations: Cabras, P; Journal of Agricultural and Food Chemistry 1998, 46, 3772

Citations: Cafia; Annual report for 2001 2002
Citations: Cafia; Annual report for 2002 2003
Citations: Cafia; Annual report for 2003 2004
Citations: Christensen, H; Food Additives and Contaminants 2003, 20, 728
Citations: Csl; FAPAS (Food Analysis Performance Assessments Scheme), Series 19, Round 20, Apple puree 2001
Citations: Csl; FAPAS (Food Analysis Performance Assessments Scheme), Series 19, Round 22, Carrot puree 2002
Citations: Csl; FAPAS (Food Analysis Performance Assessments Scheme), Series 19, Round 25, Apple puree Report No 1925 2003
Citations: Dogheim, S; Food Additives and Contaminants 2002, 19/11, 1015
Citations: Dogheim, S; Journal of AOAC International 2001, 84, 519
Citations: Eu; Monitoring of pesticide residues in products of plant origin in the European Union, 2001 Report, Document No SANCO/20/03 2003
Citations: Eu; Monitoring of pesticide residues in products of plant origin in the European Union, 2002 Report, Document No SANCO/17/04 2004
Citations: European Commission; European Commission's proficiency test 4 on pesticide residues in fruit and vegetables EU-PT4, Incurred and spiked residues of pesticides in an orange homogenate 2002
Citations: European Commission; European Commission's proficiency test 5 on pesticide residues in fruit and vegetables EU-PT5, Incurred and spiked residues of pesticides in an iceberg lettuce homogenate 2003
Citations: European Communities; Official Journal of European Communities 1999, L124, 8
Citations: European Communities; Official Journal of European Communities 2003, L41, 33
Citations: European Union; Guidelines for Residues Monitoring in the European Union, 3rd ed Document No SANCO/10476/2003 2004
Citations: Hajslova, J; Environmental contaminants in food 1999, 234
Citations: Hamilton, D; Pure and Applied Chemistry 1997, 69, 1373
Citations: Holland, P; Pure and Applied Chemistry 1994, 66, 335
Citations: Iso; General requirements for the competence of testing and calibration laboratories ISO/IEC 17025 1999
Citations: Krol, W; Journal of Agricultural and Food Chemistry 2000, 48, 4666
Citations: Nfa; The Swedish monitoring of pesticide residues in food of plant origin:2002, Livsmedelsverket Report No 12/2003 2003
Citations: Poulsen, M; Food Additives and Contaminants 2003, 20, 742
Citations: Psd; Annual report of the Pesticide Residues Committee 2003 2004
Citations: Rasmussen, R; Food Additives and Contaminants 2003, 20, 1044
Citations: Ripley, B; Journal of AOAC International 2000, 83, 196
Citations: Tomlin, C; The pesticide manual, 12th ed 2002
Citations: Us Fda; Pesticide program:Residue monitoring 2002 2003
Citations: Usda; Pesticide data program:Annual summary 2002 2004
Citations: Who; Guidelines for predicting dietary intake of pesticide residues 1997
Citations: Zabik, M; Journal of Agricultural and Food Chemistry 2000, 48, 4199 During 3 years of a monitoring program, 522 samples of fresh apples, 6 brands of fruit purees and various types of fruit baby food prepd. from these materials were analyzed. Each sample was examd. for the presence of 86 GC amenable pesticide residues. The reporting limits of the procedure employed for sample analyses were in the range 0.003-0.01 mg kg-1. Pesticide residues were detected in 59.5% of the samples of fresh apples. However, max. residue levels (European Union MRLs) were exceeded only in 1.4% of samples. The levels of residues in 'pos.' fruit purees were substantially lower, overall with residues detected in 33% of samples. Fruit baby food represented the commodity with the lowest incidence of residues being detected in only 16% of samples. The 0.01 mgkg-1 MRL was exceeded in 9% of these products. Multiple residues were found in 25% of fresh apples and in 10% of fruit purees. None of fruit baby food samples contained more than a single residue. Organophosphorus insecticides and fungicides representing phtalimides, sulfamides and dicarboximides were the most frequently found residues. To obtain more knowledge on the fate of residues during fruit baby food prodn., processing expts. employing

apples with incurred residues (fenitrothion, phosalone and tolylfluanid) were conducted. Washing of apples did not significantly reduce the content of pesticides. Steam boiling followed by removal of peels/stems was identified as the most efficient steps in terms of residues decrease (phosalone) or complete elimination (fenitrothion and tolylfluanid). [on SciFinder (R)] 0265-203X pesticide/ baby/ food/ analysis/ apple

1236. Sternberg, S. S. (The Carcinogenesis, Mutagenesis and Teratogenesis of Insecticides. Review of Studies in Animals and Man. *Pharmacol. Ther. 6(1): 147-166 1979 (140 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: PESTAB. Definitions are offered of mutagenesis, teratogenesis and the relationship between teratogenesis and carcinogenesis. Studies related to specific pesticides are reviewed and the significance of their findings reported. Specific chemicals discussed include DDT, methoxychlor, aldrin/dieldrin, Kepone (chlordecone), chlordane and heptachlor, mirex, lindane, toxaphene, dichlorvos, malathion, parathion, trichlorfon, phthalophos, and crufomate. Other agents also discussed include carbaryl, piperonyl butoxide, and pyrethrum.

1237. Stevik, Tor Kristian, Ausland, Geir, Jenssen, Petter Deinboll, and Siegrist, Robert L. (1999). Removal of E. coli during intermittent filtration of wastewater effluent as affected by dosing rate and media type. *Water Research* 33: 2088-2098.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA, EFFLUENT.

Wastewater effluent dosing rates of 25 and 50 mm/day were intermittently applied in eight daily doses of 3.125 or 6.25 mm each, to 15-cm diameter 80 cm high columns packed with two types of Light Weight Aggregates (LWA) and one type of activated carbon aggregates. After three months of wastewater effluent application at 25 mm/day to stabilize the filter systems, Escherichia coli was spiked once each day onto the surface of the columns and wastewater effluent was applied at 25 mm/day for the months. The same procedure was repeated for effluent application rate of 50 mm/day. During operation, hydraulic behavior was monitored by moisture tensiometers located 5, 10, 20 and 40 cm below the filter surface as well as by radiotracer studies. Removal behavior was assessed by sampling and analysis of the column percolate and media within the column. The removal of E. coli was decreased as a result of increasing the dosing rate for all three media. In all media, the highest removal rates were observed in the upper part of the columns. Sorption head measurements showed that each effluent dose rapidly penetrates through the upper part of the filters, until a steady state, unsaturated flow was established in the lower sections. Different flow patterns were observed for the two dosing rates. For the dosing rate of 50 mm/day, the flow was penetrating faster, and to a deeper level before establishing steady unsaturated flow. Fast flow through the upper part of the filter, where the bacterial removal is most effective, may explain the significantly lower removal for the dosing rate of 50 mm/day. The dynamic behavior of the filter columns showed that most of the water movement took place right after dose application, during intermittent dosing. This indicates that dose size may be just as important for bacterial removal as the daily dosing rate. E. coli/ dosing rate/ porous media/ purification of bacteria/ unsaturated flow/ wastewater filtration http://www.sciencedirect.com/science/article/B6V73-3WJFFJT-J/2/049a80ed0cc17a3af7d06f786283a422

1238. Stewart, P., Fears, T., Nicholson, H. F., Kross, B. C., Ogilvie, L. K., Zahm, S. Hoar, Ward, M. H., and Blair, A. (1999). Exposure Received From Application of Animal Insecticides. *American industrial hygiene association journal* 60: 208-212.
Chem Codes : Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Part of an investigation of data collection methods in epidemiologic studies of farmers evaluated exposures received by farmers from the application of insecticides to animals. Twenty farmers were monitored during a normal application using a fluorescent dye surrogate for the active ingredient (AI). Two exposure measures were estimated, AI concentration and the time-weighted average for the application period (TWAa). Four application methods were used: high- (n=5) and low-pressure (n=3) spraying exposed

farmers (18 mug) and more than two-thirds of the farmers wearing this amount of clothing had nondetectable exposures. In contrast, clothing providing little or no protection was associated with a significantly higher ($p < 0.01$) average AI concentration (4420 mug), and less than a third of the farmers with this degree of protection had nondetectable exposures. Poor work practices (leaking equipment, contact with wet animals or fences, and back splash) were associated with
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Studies
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

1239. Stewart, Patricia Ann, Fears, Thomas, Kross, Burton, Ogilvie, Linda, and Blair, Aaron (1999). Exposure of farmers to phosmet, a swine insecticide. *Scandinavian Journal of Work, Environment & Health* 25: 33-38.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 1999:222328
Chemical Abstracts Number: CAN 130:271143
Section Code: 59-2
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Air pollution; Occupational health hazard (phosmet exposure of farmers treating swine with the insecticide)
CAS Registry Numbers: 732-11-6 (Phosmet) Role: AGR (Agricultural use), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence), USES (Uses) (phosmet exposure of farmers treating swine with the insecticide)
Citations: 1) Stewart, P; To be published in Am Ind Hyg Assoc J
Citations: 2) US Environmental Protection Agency; Pesticide fact handbook 1988
Citations: 3) Good, J; J Neurol Neurosurg Psychiatry 1993, 56, 290
Citations: 4) Saftlas, A; Am J Ind Med 1987, 11, 119
Citations: 5) Blair, A; J Agric Saf Health 1995, 1, 165
Citations: 6) Blair, A; J Agric Saf Health 1997, 3, 229
Citations: 7) Ogilvie, L; Assessment methods for pesticide exposure AMPE study (1989--1991) 1994
Citations: 8) Durham, W; Bull WHO 1962, 26, 75
Citations: 9) Van Hemmen, J; Rev Environ Contam Toxicol 1992, 126, 1
Citations: 10) De Cock, J; Am J Ind Med 1995, 28, 245
Citations: 11) Popendorf, W; Am Ind Hyg Assoc J 1995, 56, 993
Citations: 12) Sanderson, W; Am Ind Hyg Assoc J 1995, 56, 890
Citations: 13) Kromhout, H; Ann Occup Hyg 1993, 37, 253
Citations: 14) Kross, B; Appl Occup Environ Hyg 1996, 11, 1346

Citations: 15) Senior, P; Ann Occup Hyg 1992, 36, 589
Citations: 16) Archibald, B; Am Ind Hyg Assoc J 1995, 56, 226
Citations: 17) Schwope, A; Am Ind Hyg Assoc J 1992, 53, 352 Phosmet dermal and inhalation exposures to phosmet during application to animals was measured. Farmers were monitored using dermal patches, gloves, and air sampling media during normal activities of applying phosmet to swine for insect control. Exposures were measured on the clothing (outer), under the clothing (inner), on the hands, and in the air. Exposure determinants were identified, and a questionnaire on work practices was administered. The outer exposure was 79 mg/h, whereas the inner exposure was 6 mg/h. The hand exposure was 534 mg/h, and the air concn. was 0.2 mg/m3. Glove use was assocd. with the hand and total dermal exposure levels, but no other determinant was assocd. with any of the exposure measures. The penetration through the clothing was 54%, which dropped to 8% when the farmers wearing short sleeves were excluded. The farmers reported 40 h a year performing insecticide-related tasks. Thus, farmers who applied phosmet to animals had measurable exposures, but the levels were lower than what was seen in other pesticide applications. Inhalation exposures were insignificant when compared with dermal exposures, which came primarily from the hands. Clothing, particularly gloves, provided substantial protection from exposures. No other exposure determinant was identified. [on SciFinder (R)] 0355-3140 phosmet/ air/ pollution/ swine/ farmer/ occupational/ exposure

1240. Stimmann, M. W. and Ferguson, M. P. (1990). Potential Pesticide Use Cancellations in California. *Calif.Agric.* 44: 12-16.
Chem Codes: Chemical of Concern: CLP,PAQT,MLN,CBF,DU,PRT,Naled,MOM,MDT,ETN,ES,DMT,DZ,CPY,AZ,PPHD,PSM,PMR,PRN,CYP,ACP,TFN,ODZ,LNR,ATZ,ACR,TPM,SZ,PMT,Captan,CTN,Folpet,MZB,Maneb,MEM,Zineb,DDVP,HCCH,BMY,DINO,PNB,TBA,24DXY,MFD,MTL,OYZ Rejection Code: NO TOX DATA.

1241. Stimmann, M. W. and Ferguson, M. P. (1990). Progress Report Vice President's Task Force on Pest Control Alternatives Potential Pesticide Use Cancellations in California Usa. *Calif agric* 44: 12-16.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOX DATA.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM FARMING INDUSTRY CROP INDUSTRY AGRICHEMICAL BAN LEGISLATION GOVERNMENT REGULATION SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 FEDERAL INSECTICIDE FUNGICIDE AND RODENTICIDE ACT ENVIRONMENTAL PROTECTION ACT OF
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
KEYWORDS: General Biology-Institutions
KEYWORDS: Biochemical Studies-General
KEYWORDS: Agronomy-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-General
LANGUAGE: eng

1242. Stivala, S. S., Yuan, L., Ehrlich, J., and Liberti, P. A. (1967). Physicochemical studies of fractionated bovine heparin : III. Some physical parameters in relation to biological activity. *Archives of*

Biochemistry and Biophysics 122: 32-39.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Graded self-hydrolysis of commercial bovine heparin produced samples of varying anticoagulant activity. The hydrolysis results in desulfation, which is accompanied by decrease in (a) sedimentation coefficient, (b) intrinsic viscosity when measured in water, and (c) axial ratios, a/b, if a prolate ellipsoid model is assumed. Intrinsic viscosities obtained in 0.5 NaCl were relatively unchanged for the hydrolyzed samples. The drop in molecular weight during inactivation is due to desulfation and not to depolymerization. Hydrolysis results in both O- and N-desulfation, the latter to a greater extent than the former. The data suggest that degree of sulfation and size and/or shape confer on heparin its biological activity. http://www.sciencedirect.com/science/article/B6WB5-4DV04VM-5H/2/70fe2fe7ce4385ae0e1d43cbc1ec7d8e

1243. Stokes, L. , Stark, A., Marshall, E., and Narang, A. (1995). Neurotoxicity Among Pesticide Applicators Exposed to Organophosphates. *Occupational and environmental medicine* 52: 648-653.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Objectives: An epidemiological study of 90 male pesticide applicators licensed in New York was conducted to investigate the effect of exposure to organophosphate pesticides on the peripheral nervous system. Methods: A cohort of farmers and pesticide applicators from New York State were questioned off season (November 1988-February 1989) and again during the spraying season (April 1989-August 1989) about the presence of several acute signs and symptoms. Short term exposure was validated by measuring the concentration of dimethylthiophospahte (DMTP), a metabolite of guthion, in urine. Chronic signs of subtle peripheral nerve damage were determined by vibration threshold sensitivity of the farmers and applicators tested during November 1988-February 1989 and compared with controls drawn from the general population who were tested during the same time period the next year (November 1989-February 1990). Vibration threshold sensitivity was determined for both the hands and fe
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: ENVIRONMENTAL EXPOSURE
MESH HEADINGS: BIOMECHANICS
MESH HEADINGS: CHORDATA
MESH HEADINGS: EXTREMITIES
MESH HEADINGS: ANIMAL
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: NERVOUS SYSTEM/PHYSIOLOGY
MESH HEADINGS: NERVOUS SYSTEM/METABOLISM
MESH HEADINGS: NERVOUS SYSTEM DISEASES/PATHOLOGY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: PUBLIC HEALTH ADMINISTRATION
MESH HEADINGS: STATISTICS
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: MORBIDITY
MESH HEADINGS: NEOPLASMS
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS

MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: External Effects-Physical and Mechanical Effects (1970-)
KEYWORDS: Chordate Body Regions-Extremities (1970-)
KEYWORDS: Pathology
KEYWORDS: Pathology
KEYWORDS: Nervous System-Physiology and Biochemistry
KEYWORDS: Nervous System-Pathology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health-Public Health Administration and Statistics
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Public Health: Epidemiology-Organic Diseases and Neoplasms
KEYWORDS: Agronomy-General
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Hominidae
LANGUAGE: eng

1244. Stone, D. B., Timmins, P. A., Schneider, D. K., Krylova, I., Ramos, C. H. I., Reinach, F. C., and Mendelson, R. A. (1998). The effect of regulatory Ca2+ on the in situ structures of troponin C and troponin I: a neutron scattering study. *Journal of Molecular Biology* 281: 689-704.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

The effects of regulatory amounts of Ca2+ on the in situ structures of troponin C (TnC) and troponin I (TnI) in whole troponin have been investigated by neutron scattering. In separate difference experiments, 97% deuterated TnC and TnI within whole troponin were studied +/-Ca2+ in 41.6% 2H2O buffers in which protonated subunits were rendered "invisible". We found that the radius of gyration (Rg) of TnI decreased by [approximate]10% upon addition of regulatory Ca2+indicating that it was significantly more compact in the presence of Ca2+. The apparent cross-sectional radius of gyration (Rc) of TnI increased by about 9% when regulatory Ca2+ was bound to TnC. Modeling studies showed that the high-Q scattering patterns of TnI could be fit by a TnI which consisted of two subdomains: one, a highly oblate ellipsoid of revolution containing about 65% of the mass and the other, a highly prolate ellipsoid of revolution consisting of about 35% of the mass. No other fits could be found with this class of models. Best fits were achieved when the axes of revolution of these ellipsoids were steeply inclined with respect to each other. Ca2+ addition decreased the center of mass separation by about 1.5 nm. The Rg of TnI, its high-Q scattering pattern, and the resultant structure were different from previous results on neutron scattering by TnI in the (+Ca2+) TnC[middle dot]TnI complex. The Rg of TnC indicated that it was elongate in situ. The Rg of TnC was not sensitive to the Ca2+ occupancy of its regulatory sites. However, Rc increased upon Ca2+ addition in concert with expectations from NMR and crystallography of isolated TnC. The present observations indicate that TnI acts like a molecular switch which is controlled by smaller Ca2+-induced changes in TnC. troponin structure/ Ca2+ switch/ regulation of muscle contraction/ neutron scattering
http://www.sciencedirect.com/science/article/B6WK7-45S497V-6J/2/ccbc5ef5aed3d0cec285678a86bee1fc

1245. Stone, J. A., Oblath, S. B., Hawkins, R. H., Emslie, R. H., and Ryan, J. P. Jr (Migration Studies at the Savannah River Plant Shallow Land Burial Site. *Govt reports announcements & index (gra&i), issue 05, 1984*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: Radionuclide migration from the Savannah River Plant low-level waste burial

ground was studied in ongoing programs that provide generic data on a shallow land burial site in a humid region and support local waste disposal operations. Field, laboratory, and theoretical work continued in four areas. (1) Subsurface Monitoring: Groundwater around the burial ground was monitored for traces of radioactivity and mercury. (2) Lysimeter Tests: Gamma-emitting radionuclides were identified by sensitive methods in defense waste lysimeter percolate waters. Results from these and other lysimeters containing tritium, I-129, or Pu-239 sources are given. (3) Soil-Water Chemistry: Experiments on specific factors affecting migration of Cs-137 showed that potassium significantly increases cesium mobility, thus confirming observations with trench waters. Distribution coefficients for ruthenium were measured. (4) Transport Modeling: Efforts to refine and validate the SRL dose-to-man model continued. Transport calcula
KEYWORDS: Cesium
KEYWORDS: Ground Water
KEYWORDS: Man
KEYWORDS: Radioactive Waste Disposal
KEYWORDS: Ruthenium
KEYWORDS: Savannah River Plant

1246. Storherr, Robert W., Murray, Edward Joseph, Klein, I., and Rosenberg, Lynn A (1967). Sweep codistillation cleanup of fortified edible oils for determination of organophosphate and chlorinated hydrocarbon pesticides. *Journal - Association of Official Analytical Chemists* 50: 605-15.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1967:442612
Chemical Abstracts Number: CAN 67:42612
Section Code: 17
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Oils Role: BIOL (Biological study) (butter, insecticide detn. in); Milk (concd. or evaporated, insecticide detn. in); Margarine (insecticide detn. in); Cod-liver oil; Corn oil; Cottonseed oil; Lard; Oils; Olive oil; Peanut oil; Safflower oil; Soybean oil Role: AMX (Analytical matrix), ANST (Analytical study) (insecticide detn. in); Oils Role: BIOL (Biological study) (lard, insecticide detn. in); Oils Role: BIOL (Biological study) (margarine, insecticide detn. in)
Index Terms(2): 4,7-Methanoindan Role: ANT (Analyte), ANST (Analytical study) (detn. of, in oils)
CAS Registry Numbers: 50-29-3; 56-38-2; 58-89-9; 60-57-1; 72-20-8; 72-43-5; 72-54-8; 72-55-9; 76-44-8 (4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-); 86-50-0; 116-29-0; 121-75-5; 298-00-0; 298-02-2; 299-84-3; 309-00-2; 319-84-6; 333-41-5; 563-12-2; 732-11-6; 786-19-6; 1024-57-3; 8001-35-2 (Toxaphene) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in oils) The technique of sweep codistn. developed for organophosphate pesticides in fruits and vegetables was expanded for application to organophosphate and chlorinated hydrocarbon pesticides in edible oils. A modified longer and wider Storherr tube and heating assembly was used in this work and 3-mm.-diam. glass beads replaced the glass wool packing used in crop work. The work on oils was performed at 248 +- 3 Deg with a N flow of 600 ml./min. and injection of a sweeping solvent every 3 min. for 30 min. Phosphate pesticides were analyzed by gas chromatog. with a K thermionic detector and chlorinated pesticides were detd. by electron-capture gas chromatog., after a micro Florisil column was used to eliminate extraneous peaks. Recoveries of 10 phosphate pesticides from 9 edible oils ranged from 74 to 100% at fortification levels of 0.04 to 6.25 ppm.; av. recoveries for the individual pesticides were 90-9%. Av. recoveries for the chlorinated pesticides ranged from a low of 75% for Tedion to a high of 98% for endrin and dieldrin. Sensitivity of 0.01 is readily obtainable for compds. such as parathion and heptachlor epoxide. The sweep codistn. method is suitable for the rapid detn. of the 14 chlorinated and 10 organophosphate pesticides tested in edible oils. [on SciFinder (R)] 0004-5756 CHROMATOG/

PESTICIDES;/ GAS/ CHROMATOG/ PESTICIDES;/ OIL/ PESTICIDES/ DETN;/ RESIDUES/ PESTICIDES/ DETN;/ PESTICIDES/ DETN/ OIL;/ PHOSPHORUS/ PESTICIDES/ OIL;/ CHLORINATED/ PESTICIDES/ OIL

1247. Stottlemyer, R. (Ecosystem Processes and Nitrogen Export in Northern U.s. Watersheds. *Scientificworldjournal. 2001, nov 16; 1 suppl 2:581-8. [Thescientificworldjournal]: ScientificWorldJournal*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: There is much interest in the relationship of atmospheric nitrogen (N) inputs to ecosystem outputs as an indicator of possible "nitrogen saturation" by human activity. Longer-term, ecosystem-level mass balance studies suggest that the relationship is not clear and that other ecosystem processes may dominate variation in N outputs. We have been studying small, forested watershed ecosystems in five northern watersheds for periods up to 35 years. Here I summarize the research on ecosystem processes and the N budget. During the past 2 decades, average wet-precipitation N inputs ranged from about 0.1 to 6 kg N ha(-1) year(-1) among sites. In general, sites with the lowest N inputs had the highest output-to-input ratios. In the Alaska watersheds, streamwater N output exceeded inputs by 70 to 250%. The ratio of mean monthly headwater nitrate (NO3-) concentration to precipitation NO3- concentration declined with increased precipitation concentration. A series of ecosystem processes have been studied and related to N outputs. The most important appear to be seasonal change in hydrologic flowpath, soil freezing, seasonal forest-floor inorganic N pools resulting from over-winter mineralization beneath the snowpack, spatial variation in watershed forest-floor inorganic N pools, the degree to which snowmelt percolates soils, and gross soil N mineralization rates.
MESH HEADINGS: Alaska
MESH HEADINGS: Anions/metabolism
MESH HEADINGS: Climate
MESH HEADINGS: Colorado
MESH HEADINGS: *Ecosystem
MESH HEADINGS: Environmental Monitoring/methods
MESH HEADINGS: Geologic Sediments/chemistry
MESH HEADINGS: Humans
MESH HEADINGS: Ions/metabolism
MESH HEADINGS: Michigan
MESH HEADINGS: Nitrates/metabolism
MESH HEADINGS: Nitrogen/*metabolism
MESH HEADINGS: Quaternary Ammonium Compounds/metabolism
MESH HEADINGS: Rain
MESH HEADINGS: Rivers/chemistry
MESH HEADINGS: Seasons
MESH HEADINGS: Soil/analysis
MESH HEADINGS: Trees
MESH HEADINGS: Water/chemistry/metabolism
MESH HEADINGS: Water Movements
LANGUAGE: eng

1248. Stripling, Terri A., Karker, Jeffrey A., Hagerdon, Randy S., Morrison, Janet F., Lin, Jing, Eden, Thomas M., and Selavka, Carl M (20050714). System for comminuting, extracting and detecting analytes in solid biological samples. 64 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2005:612445
Chemical Abstracts Number: CAN 143:90976
Section Code: 1-1

Section Title: Pharmacology
CA Section Cross-References: 4
Coden: PIXXD2
Index Terms: Natural products Role: ADV (Adverse effect, including toxicity), ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (opium; system for comminuting, extg. and detecting analytes in solid biol. samples); Body fluid; Drugs of abuse; Hair; Herbicides; Human; Pesticides; Pharmaceutical analysis (system for comminuting, extg. and detecting analytes in solid biol. samples); Steroids Role: ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (system for comminuting, extg. and detecting analytes in solid biol. samples)
CAS Registry Numbers: 50-14-6 (Ergocalciferol); 50-23-7 (Cortisol); 50-28-2 (Estradiol); 50-29-3 (DDT); 50-36-2 (Cocaine); 52-39-1 (Aldosterone); 52-68-6 (Chlorophos); 53-06-5 (Cortisone); 53-16-7 (Estrone); 53-41-8 (Androsterone); 54-11-5 (Nicotine); 56-38-2 (Parathion); 57-27-2 (Morphine); 57-83-0 (Progesterone); 58-18-4 (Methyl testosterone); 58-22-0 (Testosterone); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 67-97-0 (Cholecalciferol); 72-43-5 (Methoxychlor); 76-57-3 (Codeine); 79-63-0 (Lanosterol); 82-68-8 (Quintozene); 85-40-5 (Tetrahydrophthalimide); 86-50-0 (Azinphos methyl); 90-43-7 (o-Phenylphenol); 92-52-4D (1,1'-Biphenyl); 94-75-7 (2,4-D); 94-82-6 (2,4-DB); 99-30-9 (Dichloran); 101-21-3 (Chloropropham); 104-40-5 (4-Nonylphenol); 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 120-12-7 (Anthracene); 120-83-2 (2,4-DCP); 121-75-5 (Malathion); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 218-01-9 (Chrysene); 298-00-0 (Parathion methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-62-9 (Amphetamine); 309-00-2 (Aldrin); 314-40-9 (Bromacil); 333-41-5 (Diazinon); 434-22-0 (Nortestosterone); 537-46-2 (Methamphetamine); 608-93-5 (Pentachlorobenzene); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1071-37-0 (Ethiron); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1861-32-1 (Dacthal); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1972-08-3 (THC); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2497-06-5 (Disulfoton sulfone); 2921-88-2 (Chlorpyrifos); 7786-34-7 (Mevinphos); 10265-92-6; 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 15972-60-8 (Alachlor); 21087-64-9 (Metribuzin); 22224-92-6 (Fenamiphos); 30560-19-1 (Acephate); 36734-19-7 (Iprodione); 42542-10-9 (MDMA); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 68359-37-5 (Cyfluthrin); 88671-89-0 (Myclobutanil) Role: ADV (Adverse effect, including toxicity), ANT (Analyte), BSU (Biological study, unclassified), ANST (Analytical study), BIOL (Biological study) (system for comminuting, extg. and detecting analytes in solid biol. samples)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2003-532765
Priority Application Date: 20031224
Citations: Takei; US 20030077839 2003
Citations: Lawrence; US 20020197631 2002 The invention relates to reagents, methods, devices and systems for comminuting, extg. and detecting drug, pesticide, herbicide and steroid analytes in solid biol. samples originating e.g. from man, domestic animals, plants, amphibians, insects and reptiles. [on SciFinder (R)] C12N001-00. system/ comminuting/ extg/ detecting/ analyte/ solid/ biol

1249. Strong, Larkin L., Thompson, Beti, Coronado, Gloria D., Griffith, William C., Vigoren, Eric M., and Islas, Ilda (2004). Health symptoms and exposure to organophosphate pesticides in farmworkers.

American Journal of Industrial Medicine 46: 599-606.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 2005:16866
Chemical Abstracts Number: CAN 142:340769
Section Code: 59-5
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Dust (house; relationship between health symptoms and exposure to organophosphate pesticides in farmworkers using biomarker data and pesticide residue in house and vehicle dust); Pesticides (organophosphorus; relationship between health symptoms and exposure to organophosphate pesticides in farmworkers using biomarker data and pesticide residue in house and vehicle dust); Human; Occupational health hazard; Urine (relationship between health symptoms and exposure to organophosphate pesticides in farmworkers using biomarker data and pesticide residue in house and vehicle dust); Exhaust gases (vehicle dust; relationship between health symptoms and exposure to organophosphate pesticides in farmworkers using biomarker data and pesticide residue in house and vehicle dust)
CAS Registry Numbers: 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 298-00-0 (Methylparathion); 732-11-6 (Phosmet) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (in house and vehicle dust; relationship between health symptoms and exposure to organophosphate pesticides in farmworkers using biomarker data and pesticide residue in house and vehicle dust); 813-78-5 (Dimethylphosphate); 32534-66-0 (Dimethyldithiophosphate); 59401-04-6 (Dimethylthiophosphate) Role: BSU (Biological study, unclassified), BIOL (Biological study) (organophosphate pesticide metabolite in urine; relationship between health symptoms and exposure to organophosphate pesticides in farmworkers using biomarker data and pesticide residue in house and vehicle dust)
Citations: Centers for Disease Control and Prevention; Second National Report on Human Exposure to Environmental Chemicals 2003, 159
Citations: Ciesielski, S; Am J Public Health 1994, 84, 446
Citations: Cordes, D; Am Fam Physician 1988, 38, 233
Citations: Curl, C; Environ Health Perspect 2002, 110, A787
Citations: Das, R; Int J Occ Environ Health 2001, 7, 303
Citations: Environmental Protection Agency; Organophosphate Pesticides in Food--A Primer on Reassessment of Residue Limits 2003
Citations: Farahat, T; Occup Environ Med 2003, 60, 279
Citations: Fillmore, D; J Occup Med 1993, 35, 61
Citations: Koch, D; Environ Health Perspect 2002, 110, 829
Citations: Leek, K; Final report: A community analysis of the Hispanic population in Yakima County, Washington. A demographic and descriptive background of the Hispanic population in Yakima County 1991
Citations: Lu, C; Environ Res 2000, 84, 290
Citations: McCauley, L; Environ Health Perspect 2001, 109, 533
Citations: Mills, P; Am J Ind Med 2001, 40, 571
Citations: Moses, M; AAOHN 1989, 37, 115
Citations: O'Malley, M; Occup Med 1997, 12, 327
Citations: Simcox, N; Environ Health Perspect 1995, 103, 1126
Citations: Simcox, N; Am Ind Hyg Assoc J 1999, 60, 752
Citations: Stallones, L; Env Res 2002, 90, 89
Citations: Thompson, B; Cancer Causes Control 2002, 13, 719
Citations: Thompson, B; J Occup Env Med 2003, 45, 42
Citations: US Department of Agriculture; Washington State Agricultural Statistics Report: Fruit

chemical usage, 1995 crop 1996
Citations: US Department of Agriculture; Washington Agricultural Chemical Usage Apples: 2001 crop 2002
Citations: Washington State Department of Health; Improving data quality in pesticide illness surveillance 2004
Citations: Wauchope, R; Rev Env Contam Toxicol 1992, 123, 1 Fisher's exact test was used to assess the relationship between self-reported health symptoms and indicators of exposure to organophosphate (OP) pesticides in 211 farmworkers in Eastern Washington. The health symptoms most commonly reported included headaches (50%), burning eyes (39%), pain in muscles, joints, or bones (35%), a rash or itchy skin (25%), and blurred vision (23%). Exposure to pesticides was prevalent. The proportion of detectable samples of various pesticide residues in house and vehicle dust was weakly assocd. with reporting certain health symptoms, particularly burning eyes and shortness of breath. No significant assocns. were found between reporting health symptoms and the proportion of detectable urinary pesticide metabolites. Certain self-reported health symptoms in farmworkers may be assocd. with indicators of exposure to pesticides. Longitudinal studies with more precise health symptom data are needed to explore this relationship further. [on SciFinder (R)] 0271-3586 organophosphate/ pesticide/ occupational/ exposure/ farmworker/ health/ symptom

1250. Struger, John, L'Italien, Serge, and Sverko, Ed (2004). In-use pesticide concentrations in surface waters of the Laurentian Great Lakes, 1994-2000. *Journal of Great Lakes Research* 30: 435-450.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:947137
Chemical Abstracts Number: CAN 142:451258
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Water pollution (lake and bay water; spatial and seasonal variation in and water pollution by in-use pesticides of lakes Ontario, Erie, Huron, and Superior,and Georgian Bay, USA and Canada); Herbicides (neutral and phenoxy-acid; spatial and seasonal variation in and water pollution by in-use pesticides of lakes Ontario, Erie, Huron, and Superior,and Georgian Bay, USA and Canada); Pesticides (neutral, phenoxy-acid, and organophosphorus; spatial and seasonal variation in and water pollution by in-use pesticides of lakes Ontario, Erie, Huron, and Superior,and Georgian Bay, USA and Canada); Insecticides (organophosphorus; spatial and seasonal variation in and water pollution by in-use pesticides of lakes Ontario, Erie, Huron, and Superior,and Georgian Bay, USA and Canada)
CAS Registry Numbers: 50-31-7 (2,3,6-TBA); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 86-50-0 (Azinphos-methyl); 93-72-1 (2,4,5-TP); 93-76-5 (2,4,5-T); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 94-82-6 (2,4-DB); 101-27-9 (Barban); 120-36-5 (2,4-DP); 121-75-5 (Malathion); 122-34-9 (Simazine); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Dibrom); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 1007-28-9 (Deethyl Simazine); 1582-09-8 (Trifluralin); 1689-84-5 (Bromoxynil); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 2008-41-5 (Butylate); 2303-16-4 (Diallate); 2303-16-4D (Diallate); 2303-17-5 (Triallate); 2921-88-2 (Chlorpyrifos); 6190-65-4 (Deethyl Atrazine); 13071-79-9 (Terbufos); 21087-64-9 (Metribuzin); 22212-55-1 (Benzoylprop-ethyl); 51218-45-2 (Metolachlor); 51338-27-3 (Diclofop-methyl) Role: OCU (Occurrence, unclassified), POL (Pollutant), OCCU (Occurrence) (spatial and seasonal variation in and water pollution by in-use pesticides of lakes Ontario, Erie, Huron, and Superior,and Georgian Bay, USA and Canada)
Citations: Allan, R; Wat Poll Res J Canada 1990, 25(4), 387
Citations: Aspelin, A; Pesticides Industry Sales and Usage, 1992 and 1993 Market Estimates

1994, 733-K-92-001
Citations: Canadian Council Of Ministers Of The Environment; Canadian Environmental Quality Guidelines 1999
Citations: Chan, C; J Great Lakes Res 2003, 29, 448
Citations: Crawford, C; U S Geological Survey Fact Sheet 233-95 1995
Citations: Environment Canada; Manual of Analytical Methods, Organics 1997, 3
Citations: Fenelon, J; J Environ Qual 1998, 27(4), 884
Citations: Frank, R; Arch Environ Contam Toxicol 1988, 17, 741
Citations: Frank, R; Arch Environ Contam Toxicol 1991, 21, 585
Citations: Frey, J; Water-Resources Investigations Report 00-4169 2001
Citations: Gianessi, L; Pesticide Use in Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin Crop Production 1995
Citations: Gianessi, L; Herbicide Use in the United States:Resources for the Future 1991
Citations: Gianessi, L; Insecticide Use in U S Crop Production:Resources for the Future 1992
Citations: Glooschenko, W; Pest Monit J 1976, 10(2), 61
Citations: Goolsby, D; Environ Sci Technol 1997, 31(5), 1325
Citations: Goulden, P; Design of a Large Sample Extractor for the Determination of Organics in Water 1985
Citations: Goss, D; Weed Technol 1992, 6, 701
Citations: Halfon, E; Chemosphere 1996, 33(8), 1543
Citations: Hall, J; J Environ Sci Health, Part B-Pesticides, Food Contaminants, and Agricultural Wastes 1993, B28(5)
Citations: Hansch, C; Exploring QSAR Hydrophobic, Electronic and Steric Constants 1995
Citations: Hayes, T; Proc Natl Acad Sci USA 2002, 99(8), 5476
Citations: Hayes, T; Environmental Health Perspectives 2003, 111(4), 568
Citations: Health Canada; Minister of Public Works and Government Services Cat No H48-10/1996-1E 1996
Citations: Hornsby, A; Pesticide Properties in the Environment 1996
Citations: Howard, P; Handbook of Environmental Degradation Rates 1991
Citations: Ijc; Revised Great Lakes Water Quality Agreement of 1978-Agreement with annexes and terms of reference, between the United States and Canada signed at Ottawa October 16, 1983 as amended by protocol signed November 18, 1987 1987
Citations: Larson, S; Pesticides in the Hydrologic System 1997, 3
Citations: L'Italien, S; Organic Contaminants in the Great Lakes 1986-1990 1993, EQB/IWD-OR/93-02/I
Citations: Mackay, D; Physical-Chemical Properties and Environmental Fate Handbook 2000
Citations: Moxley; Economics Information Report 89-08 1989
Citations: Muir, D; Environmental Chemistry of Herbicides 1991, 2, 3
Citations: Muir, D; Fate of Herbicides and Organochlorine Insecticides in Lake Waters 1995
Citations: Neilson, M; Water Poll Res J Can 1988, 23(4), 578
Citations: Norris, L; Bull Environ Contam Toxicol 1975, 13, 1
Citations: Nowell, L; Rev Environ Contam Toxicol 1994, 140, 1
Citations: Omafra; Economics Information Report No 94-01 1994
Citations: Omafra; Pesticide Use in Ontario, 1998 1999
Citations: Que Hee, S; Chemistry, Analysis, and Environmental Pollution, The Phenoxyalkanoic Herbicides 1981, 1
Citations: Richards, R; Environ Toxicol Chem 1993, 12, 13
Citations: Richards, R; J Great Lakes Res 1996, 22, 414
Citations: Scherrer, B; Biostatistique 1984
Citations: Schottler, S; Environ Sci Technol 1994, 28, 2228
Citations: Stevens, R; J Great Lakes Res 1989, 15, 377 Pesticides are heavily used for agricultural prodn. in the Great Lakes basin. Large-vol. samples, collected from 1994 to 2000 from lakes Ontario, Erie, Huron (including Georgian Bay), and Superior, were analyzed for neutral and phenoxy-acid herbicides and organophosphorus insecticides. A total of 39 pesticides from these 3 classes, including analytes and some metabolites, were measured. Six pesticides (barban, diallate-2, triallate, phorate, phosmet, disulfoton) were not detected. Atrazine, metolachlor, simazine, and

2,4-D were detected in >50% of samples. Highest max. concns. were obsd. for atrazine (1,039 ng/L), metolachlor (736 ng/L), and D-simazine (281 ng/L). No pesticide concns. exceeded water quality guidelines/criteria for protection of aquatic life and drinking water. Generally, an increasing concn. gradient from north to south was obsd. with Superior < Huron < Ontario < Erie. Spatial and seasonal variability of selected pesticides are discussed in relation to their use and application. [on SciFinder (R)] 0380-1330 pesticide/ water/ pollution/ Great/ Lake/ basin/ USA

1251. Stubbs, Vincent K., Downing, Francis S., and Marrs, Gordon J (19791016). Tickicidal pyrethroid mixtures and stabilizer. 6 pp.
Chem Codes : Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1980:53404
Chemical Abstracts Number: CAN 92:53404
Section Code: 5-4
Section Title: Agrochemicals
Coden: USXXAM
Index Terms: Pyrethrins and Pyrethroids Role: BIOL (Biological study) (synergistic acaricidal compns. contg., for Boophilus microplus control); Boophilus microplus (synergistic acaricidal mixts. for control of); Acaricides (synergistic, for Boophilus microplus control)
CAS Registry Numbers: 2440-22-4 Role: BIOL (Biological study) (acaricidal compns stabilization by); 56-72-4; 78-34-2; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 2921-88-2; 6197-30-4; 52645-53-1; 52820-00-5 Role: BIOL (Biological study) (acaricides contg., synergistic, for Boophilus microplus control); 131-54-4; 2985-59-3; 4507-97-5 Role: BIOL (Biological study) (as stabilizer, for synergistic acaricidal mixts.)
Patent Application Country: Application: US Synergistic mixts. of a pyrethroid and a N-substituted heterocyclic organophosphorus insecticide, also contg. a benzophenone deriv. or triazine as a stabilizer, are highly active in controlling Boophilus microplus. Thus, a dispersible powder contg. 100 parts a-cyano-3-phenoxybenzyl (2,2-dibromovinyl)-2,2-dimethylcyclopropanecarboxylate [52820-00-5], 300 parts 2-chloro-1-(2,4-dichlorophenyl)vinyl di-Et phosphate [470-90-6], 1 part 1,3,5-tris(2'-hydroxyphenyl)triazine [4507-97-5], 500 parts clay, 20 parts nonionic surfactant, and 80 parts water gave prolonged protection against B. microplus on cattle. [on SciFinder (R)] A01N009-02. acaricide/ Boophilus/ pyrethroid/ organophosphorus;/ synergism/ acaricide/ pyrethroid/ organophosphorus;/ benzophenone/ triazine/ stabilizer/ acaricide

1252. Stubbs, Vincent Kennard (19830825). Tickicidal composition. 26 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1984:19312
Chemical Abstracts Number: CAN 100:19312
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: ALXXAP
Index Terms: Pyrethrins and Pyrethroids Role: BIOL (Biological study) (acaricidal compns. contg. organophosphates and, synergistic, for tick control); Boophilus microplus (control of, by compns. contg. pyrethroids and organophosphates, synergistic); Acaricides (synergistic, compns. contg. pyrethroids and organophosphates, for tick control)
CAS Registry Numbers: 68085-85-8 Role: BIOL (Biological study) (acaricidal compns. contg. organophosphates and, for tick control, synergistic); 52-85-7; 55-38-9; 56-72-4; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 786-19-6; 2921-88-2; 4824-78-6; 23505-41-1 Role: BIOL (Biological study) (acaricidal compns. contg. pyrethroids and, synergistic, for tick control)
Patent Application Country: Application: AU Compns. contg. pyrethroids I (X = F, Cl, Br, WF2C;

W = H, F, Cl; Y = H, F, Cl; Z = H or CN) and organophosphates are synergistic acaricides for tick control. Thus, a compn. contg. a-cyano-3-phenoxybenzyl 3-(2-chloro-3,3,3-trifluoroprop-1-en-1-yl)-2,2-dimethylcyclopropane carboxylate [68085-85-8] and ethion [563-12-2] at 50 and 100 ppm, resp., was synergistically active against an organophosphate-resistant strain of Boophilus microplus engorged adults. [on SciFinder (R)] A01N053-00; A01N057-14; A01N057-16. acaricide/ pyrethroid/ organophosphate/ tick/ control

1253. Stubbs, Vincent Kennard and Webber, Lionel Grenville (19791206). Tickicidal compositions. 41 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1980:141815
Chemical Abstracts Number: CAN 92:141815
Section Code: 5-4
Section Title: Agrochemicals
Coden: ALXXAP
Index Terms: Acaricides; Insecticides (synergistic, carbamate- and phosphorothioate-contg.)
CAS Registry Numbers: 52-85-7; 55-38-9; 56-72-4; 78-34-2; 333-41-5; 470-90-6; 563-12-2; 732-11-6; 786-19-6; 2921-88-2; 4824-78-6; 23505-41-1 Role: BIOL (Biological study) (acaricidal and insecticidal compns. contg. carbamates and, synergistic); 2012-48-8; 2184-73-8; 2412-21-7; 2863-64-1; 31350-32-0; 31350-33-1; 31350-34-2; 34264-23-8; 34264-24-9 Role: BIOL (Biological study) (acaricidal and insecticidal compns. contg. organophosphorus insecticides and, synergistic)
Patent Application Country: Application: AU Carbamate and phosphorothioate (or phosphorodithioate) insecticides and acaricides are synergistic, and are esp. active against cattle ticks. Thus, a compn. contg. 10000 ppm promacyl [34264-24-9] and 500 ppm bromophos ethyl [4824-78-6] was 100% lethal to the \"Biarra\" strain of Boophilus microplus, whereas the compds. applied by themselves were less active. [on SciFinder (R)] A01N009-36; A01N009-22; A01N009-20. acaricide/ synergism/ carbamate/ phosphorothioate;/ insecticide/ synergism/ carbamate/ phosphorothioate

1254. Su, Ping, Harvey, Melissa, Im, Hee J., and Dunn, Noel W. (1997). Isolation, cloning and characterisation of the abiI gene from Lactococcus lactis subsp. lactis M138 encoding abortive phage infection. *Journal of Biotechnology* 54: 95-104.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Plasmid pND852 (56 kb) encodes nisin resistance and was isolated from Lactococcus lactis ssp lactis (L. lactis) M138 by conjugation to L. lactis LM0230. It conferred strong resistance to the isometric-headed phage [phi]712 and partial resistance to the prolate-headed phage [phi]c2. A 2.6 kb HpaII fragment encoding phage resistance was cloned into the streptococcal/Bacillus hybrid vector pGB301 to generate pND817. The mechanism of phage resistance encoded by pND817 involved abortive infection and this was illustrated by a reduction in burst size from 166 to 6 at 30[degree sign]C and from 160 to 90 at 37[degree sign]C. Partial resistance was therefore retained at 37[degree sign]C. DNA sequencing revealed that the abortive infection was encoded by a single open reading frame (ORF), designated abiI, encoding a 332 amino acid protein. Neither abiI nor the predicted product showed significant homology to any existing sequence in the GenBank database. Frame shift mutation at the unique EcoRI site within the ORF resulted in loss of the Abi+ phenotype, confirming that the ORF is responsible for the encoded phage resistance.
Lactococcus lactis/ Plasmid pND852/ abiI gene/ Phage resistance/ Abortive infection
http://www.sciencedirect.com/science/article/B6T3C-3RHN9YG-2/2/9053dab8ad750fa1c8a11539fba35d2a

1255. Sugai, Syoichiroh, Murata, Kyoji, Kitagaki, Tadaharu, and Tomita, Isao (1990). Studies on eye irritation caused by chemicals in rabbits. 1. A quantitative structure-activity relationships approach to primary eye irritation of chemicals in rabbits. *Journal of Toxicological Sciences* 15: 245-62.

Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Database: CAPLUS
Accession Number: AN 1991:552617
Chemical Abstracts Number: CAN 115:152617
Section Code: 4-3
Section Title: Toxicology
CA Section Cross-References: 1
Document Type: Journal
Language: written in English.
Index Terms: Eye (in anal. of structure-activity relationships of toxic chems.); Toxicity (structure-activity relationships in, eye irritation test in anal. of); Solvents (toxicity of org., structure effect on, eye irritation test in anal. of); Detergents; Pesticides (toxicity of, structure effect on, eye irritation test in anal. of); Molecular structure-biological activity relationship (toxic, eye irritation test in anal. of)
CAS Registry Numbers: 50-55-5; 50-85-1 (4-Methylsalicylic acid); 52-90-4 (Cystein); 53-86-1; 54-11-5; 54-21-7 (Sodium salicylate); 56-40-6 (Glycine); 58-08-2; 58-15-1 (Dimethylaminoantipyrine); 58-61-7 (Adenosine); 58-63-9 (Inosine); 59-66-5; 60-24-2 (Mercaptoethanol); 60-29-7 (Diethylether); 61-82-5 (3-Amino-1,2,4-triazole); 62-55-5 (Thioacetamide); 65-49-6 (4-Aminosalicylic acid); 65-85-0 (Benzoic acid); 67-56-1 (Methyl alcohol); 67-66-3 (Chloroform); 67-68-5 (Dimethylsulfoxide); 68-12-2; 68-94-0 (Hypoxanthine); 69-72-7 (Salicylic acid); 69-78-3 (5,5'-Dithio-bis(2-nitrobenzoic acid); 70-34-8 (2,4-Dinitrofluorobenzene); 71-00-1 (L-Histidine); 71-36-3 (Butyl alcohol); 71-43-2 (Benzene); 73-22-3 (L-Tryptophane); 73-24-5 (1H-Purin-6-amine); 74-59-9; 88-89-1 (Picric acid); 89-56-5 (5-Methylsalicylic acid); 89-57-6 (5-Aminosalicylic acid); 91-20-3 (Naphthalene); 96-09-3 (1,2-Epoxyethylbenzene); 96-45-7 (2-Imidazolidinethione); 96-97-9 (5-Nitrosalicylic acid); 97-00-7 (2,4-Dinitrochlorobenzene); 98-92-0 (3-Pyridinecarboxamide); 100-01-6 (p-Nitroaniline); 100-09-4 (Methoxybenzoic acid); 100-66-3 (Methoxybenzene); 100-68-5; 101-84-8 (Diphenylether); 108-24-7 (Acetic anhydride); 108-30-5 (Succinic anhydride); 108-88-3 (Toluene); 109-05-7; 110-82-7 (Cyclohexane); 110-86-1 (Pyridine); 110-89-4 (Piperidine); 111-87-5 (Octyl alcohol); 118-00-3 (Guanosine); 122-14-5; 122-39-4 (Diphenylamine); 123-31-9 (Hydroquinone); 123-54-6 (Acetylacetone); 128-08-5 (N-Bromosuccinimide); 128-53-0 (N-Ethylmaleimide); 137-58-6; 139-59-3; 151-21-3 (Sodiumdodecyl sulfate); 288-88-0 (1H-1,2,4-Triazole); 289-95-2 (Pyrimidine); 431-03-8 (2,3-Butanedione); 490-79-9 (5-Hydroxysalicylic acid); 583-39-1; 594-45-6 (Ethanesulfonic acid); 609-99-4 (3,5-Dinitrosalicylic acid); 616-02-4 (Citraconic anhydride); 732-11-6; 765-87-7 (1,2-Cyclohexanedione); 772-33-8 (2-Hydroxy-5-nitrobenzyl bromide); 831-54-9 (5-Sulfosalicylic acid sodium salt); 931-63-5 (2-Methoxypyrimidine); 1074-12-0 (Phenylglyoxal); 1450-85-7 (2-Mercaptopyrimidine); 2466-76-4 (N-Acetylimidazole); 2612-02-4 (5-Methoxysalicylic acid); 3518-65-8; 9002-93-1; 13073-35-3 (Ethionine); 24645-80-5 (p-Hydroxyphenylglyoxal); 28249-77-6; 30086-64-7 (Octahydro-2H-benzimidazole-2-thione); 46506-88-1; 55276-39-6; 88805-32-7; 95394-32-4; 95394-37-9; 95394-57-3; 95394-68-6; 95394-69-7; 95394-70-0; 95410-14-3; 110235-47-7; 110284-90-7; 110284-94-1; 110286-13-0; 112588-10-0; 112588-25-7; 112588-38-2; 112806-71-0; 113582-63-1; 113582-69-7; 113761-80-1; 113763-00-1; 113763-79-4; 117224-21-2; 117224-50-7; 117224-59-6; 117224-69-8; 119152-39-5; 119452-53-8; 119452-70-9; 119561-89-6; 123342-93-8; 125401-75-4; 125905-53-5; 128887-17-2; 134923-12-9; 134923-14-1; 134923-16-3; 134923-17-4; 134923-18-5; 134923-19-6; 134923-20-9; 134923-21-0 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, structure effect on, eye irritation test in anal. of) A quant. structure-activity relationship (QSAR) approach has been applied to the anal. of the relation between the structural features of chems. and the primary eye irritation in rabbits. Some 131 heterogeneous chems. including medicals, pesticides, detergents, and org. solvents, were used in this study. The eye irritation ratings were made in three classes on the basis of the recovery time of corneal and conjunctival damages. Thirty-six descriptors were used to describe the mols. To correlate eye irritation ratings with the descriptors, a QSAR model was formulated by the adaptive least-squares method. A three-class discrimination was made as follows. Class I included 23 chems. which

induced the damages recovering within 24 h, class II included 64 chems. which induced the damages persisting for more than 24 h but recovering within 21 days, and class III included 44 chems. which induced the damages not recovering within 21 days. The discriminant function included 18 descriptors. The accuracy in classifying the chems. was 86.3% in the recognition and 74.0% in the leave-one-out prediction. These results suggest that QSAR anal. is valuable to predict the primary eye irritation of chems. [on SciFinder (R)] 0388-1350 chem/ structure/ toxicity/ eye/ irritation/ test

1256. Sukstanskii, Alexander L. and Yablonskiy, Dmitriy A. (2001). Theory of FID NMR Signal Dephasing Induced by Mesoscopic Magnetic Field Inhomogeneities in Biological Systems. *Journal of Magnetic Resonance* 151: 107-117.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

A theory of the NMR signal dephasing due to the presence of tissue-specific magnetic field inhomogeneities is developed for a two-compartment model. Randomly distributed magnetized objects of finite size embedded in a given media are modeled by ellipsoids of revolution (prolate and oblate spheroids). The model can be applied for describing blood vessels in a tissue, red blood cells in the blood, marrow within trabecular bones, etc. The time dependence of the dephasing function connected with the spins inside of the objects, si, is shown to be expressed by Fresnel functions and creates a powder-type signal in the frequency domain. The short-time regime of the dephasing function for spins outside the objects, se, is always characterized by Gaussian time dependence, se~exp[-[zeta]k(t/tc)2], with [zeta] being a volume fraction occupied by the objects, tc being a characteristic dephasing time, and the coefficient k depending on the ellipsoid's shape through the aspect ratio of its axes (a/c). The long-time asymptotic behavior of se is always "quasispherical"-linear exponential in time, se~ exp(-[zeta]Ct/tc), with the same "spherical" decay rate for any ellipsoidal shape. For long prolate spheroids (a/c)<<1, there exists an intermediate characteristic regime with a linear exponential time behavior and an aspect-ratio-dependent decay rate smaller than ([zeta]C/tc). http://www.sciencedirect.com/science/article/B6WJX-457VF81-2J/2/41d27d07db1ec3954382eb13e54f88d7

1257. Sumathy, V. J. H., Sudarsanam, D., Ekambaram, E., John, G., and National Institute of Ocean Technology, Chennai (India) (2004). Bioaccumulation and Impact of Heavy Metals in Penaeus Monodon and Metapenaeus Moyebi Inhabiting Ennore Brackish Water Ecosystem.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Descriptors: Article Subject Terms: Marine crustaceans
Descriptors: Bioaccumulation
Descriptors: Heavy metals
Descriptors: Pollution effects
Descriptors: Tissues
Descriptors: Muscles
Descriptors: Hepatopancreas
Descriptors: Article Taxonomic Terms: Penaeus monodon
Descriptors: Metapenaeus moyebi
Descriptors: Article Geographic Terms: ISW, India, Tamil Nadu, Ennore Estuary
Abstract: A great deal of the pollutants have been produced by the civilized human by virtue of his input into industries and consequently the output being the release of pollutants into the aquatic ecosystem. Scientific studies confirm that different pollutants have varied impacts on the aquatic biota and in particular fishery resources that form a food resource to human. Thus it becomes increasingly apparent that industrialization and other multifaceted activities of human have caused aquatic pollution. India is one of the largest fish producing nations in the world ranking ninth among other nations. Almost all the pollutants interfere with the metabolism of the aquatic fauna including fish fauna. Pollutants exhibit lethality that is diversified in various organ systems. Respiratory changes include clogging of the gills due to the modification of bronchial cells by histopathological changes, whereas damage to haemopoietic tissue can lead to modification of the respiratory pigments of the blood and can decrease the oxyphoretic capacity of the blood.

Generally the pollutants percolate into the cellular level through the cell membrane and interact with cellular macromolecules to inhibit the essential cellular metabolism. Thus, measurement of sublethal responses at the cellular level could provide an insight for an assessment of water quality and environmental impact of pollutants. The present case study investigations discloses not only the effluents which cause imbalance in the brackish water ecosystem and shrimp inhabitation but also throws light on the effect of human health through the aquatic food chain.
Conference: Natl. Semin. on New Frontiers in Marine Bioscience Research, National Institute of Ocean Technology, Chennai (India), 22-23 Jan 2004
Physical medium: Printed matter
Language: English
English
Publication Type: Book Monograph
Publication Type: Conference
Environmental Regime: Brackish
Classification: Q1 01286 Physiology, biochemistry, biophysics
Classification: Q5 01504 Effects on organisms
Subfile: ASFA 3: Aquatic Pollution & Environmental Quality; ASFA 1: Biological Sciences & Living Resources

1258. Sun, Feei, Lin, Feng-Yi, Wong, Sue-Sun, and Li, Gwo-Chen (2003). The screening of organophosphorus, organochlorine and synthetic pyrethroid pesticides residues in beef fat by tandem solid-phase extraction technique. *Yaowu Shipin Fenxi* 11: 258-265.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:987954
Chemical Abstracts Number: CAN 140:216341
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organochlorine; organophosphorus, organochlorine and synthetic pyrethroid pesticides residues in beef fat detd. by tandem solid-phase extn. technique); Gas chromatography; Pesticides (organophosphorus, organochlorine and synthetic pyrethroid pesticides residues in beef fat detd. by tandem solid-phase extn. technique); Tallow Role: AMX (Analytical matrix), ANST (Analytical study) (organophosphorus, organochlorine and synthetic pyrethroid pesticides residues in beef fat detd. by tandem solid-phase extn. technique); Pesticides (organophosphorus; organophosphorus, organochlorine and synthetic pyrethroid pesticides residues in beef fat detd. by tandem solid-phase extn. technique); Pyrethrins Role: ANT (Analyte), ANST (Analytical study) (pyrethroids; organophosphorus, organochlorine and synthetic pyrethroid pesticides residues in beef fat detd. by tandem solid-phase extn. technique); Extraction (solid-phase; organophosphorus, organochlorine and synthetic pyrethroid pesticides residues in beef fat detd. by tandem solid-phase extn. technique)
CAS Registry Numbers: 50-29-3; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-55-9; 76-44-8 (Heptachlor); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 119-12-0 (Pyridaphenthion); 121-75-5; 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 309-00-2 (Aldrin); 333-41-5; 563-12-2 (Ethion); 584-79-2 (Allethrin); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 944-21-8 (Dyfoxon); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1024-57-3 (Heptachlor epoxide); 1113-02-6 (Omethoate); 1582-09-8 (Trifluralin); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2310-17-0 (Phosalone); 2597-03-7 (Phenthoate); 2921-88-2 (Chlorpyriphos); 4824-78-6 (Bromophos-ethyl); 6923-22-4 (Monocrotophos); 7696-12-0 (Tetramethrin); 13067-93-1 (Cyanofenphos); 13194-48-4 (Ethoprophos); 13593-03-8 (Quinalphos); 15972-60-8 (Alachlor); 18854-01-8

(Isoxathion); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-methyl); 33213-65-9 (b-Endosulfan); 34643-46-4 (Prothiofos); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenophos); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 67375-30-8 (Alphamethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Betacyfluthrin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 82657-04-3 (Bifenthrin); 89784-60-1 (Pyraclofos); 172838-11-8 (Tokuoxon) Role: ANT (Analyte), ANST (Analytical study) (organophosphorus, organochlorine and synthetic pyrethroid pesticides residues in beef fat detd. by tandem solid-phase extn. technique)
Citations: 1) Silvestroni, L; Chemospher 1999, 39, 1249
Citations: 2) Johnson, D; Brain Res Bull 1998, 45, 143
Citations: 3) Roy, T; Teratology 1998, 58, 62
Citations: 4) El-Gohary, M; Toxicology 1999, 132, 1
Citations: 5) Go, V; Environ Health Perspe 1999, 107, 173
Citations: 6) Codex Alimentarius Commission; Recommendations for methods of analysis of pesticide residues 1989, Document CAC/PR8-1989
Citations: 7) Sawyer, L; Official Methods of Analysis of AOAC International, 16th ed 1995, 1, 750.52
Citations: 8) Hopper, M; J AOAC Int Chem 1997, 80, 639
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Citations: 10) Sun, F; J Food Drug Anal 2000, 8, 103
Citations: 11) Luke, B; J AOAC Int Chem 1984, 67, 295
Citations: 12) National Analytical Reference Laboratory; Analytical quality assurance study 1999, 98-10, 68
Citations: 13) National Analytical Reference Laboratory; Analytical quality assurance study 1999, 99-06, 71
Citations: 14) Thompson, M; J AOAC Int Chem 1993, 76, 929
Citations: 15) Kohler, P; Chromatographia 1986, 21, 531
Citations: 16) Molto, J; Int J Environ Anal Chem 1990, 41, 21
Citations: 17) Walker, C; J Chromatogr 1993, 642, 225
Citations: 18) Austin, R; J Assos Off Anal Chem 1991, 74, 493 For regulatory monitoring of pesticides in environmental matrixes, a multiresidue anal. through solid phase extn. (SPE) technique and using gas chromatog. detn. of organochlorine (OC), organophosphorus (OP) and synthetic pyrethroid pesticides residues in beef fat was studied. The group of pesticides was added to dissolved beef fat (0.5 g) and blended with 8% de-activation florisil. The florisil/fat mixt. was packed into disposable filtration columns. This column was tandem with an octadecyl SPE column and was eluted with acetonitrile. The pesticide residues were detd. by gas chromatog. with electron capture and flame photometric detectors. Three kinds (including OC, OP and synthetic pyrethroid) with a total of 71 pesticides (including their metabolites) were tested in this study. With the exception of isoxthion and flucythrinate with high recovery rates (122% +-13% and 137% +- 31%, resp.), according to the correlation coeffs. for the 71 extd. pesticide std. curves (ranging from 0.9915+-0.0176 to 0.9999+-0.0200, n = 5), av. recovery rate (ranging from 68+-9% to 117+-11%, n = 25 for each insecticide), inter-assay variability (ranging from 3+-3% to 17+-12%, n = 25 for each insecticide), infra-assay variability (ranging from 3 to 19%, n = 5 for each insecticide) indicated that the methodol. is acceptable for the extn., detn., and screening of theses residues in beef fat. The detection limits for OCs, OPs and synthetic pyrethroid pesticides are 2.apprx.21 ng/g, 6.apprx.31 ng/g and 3.apprx.118 ng/g, resp. Comparing with studies conducted by the National Anal. Ref. Lab. in Western Australia in the field of pesticide residue testing in beef fat, the results indicated that the present method could accurately measure commonly used pesticide chems. [on SciFinder (R)] 1021-9498 beef/ fat/ pesticide/ solid/ phase/ extn/ GC

1259. Sun, Feei, Wong, Sue-Sun, Li, Gwo-Chen, and Chen, Shiu-Nan (2005). Multiresidue determination of pesticide in fishery products by a tandem solid-phase extraction technique. *Yaowu Shipin Fenxi* 13: 151-158.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2005:1033118
Chemical Abstracts Number: CAN 145:165687
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (carbamate; multiresidue detn. of carbamate pesticide in fishery products by tandem solid-phase extn. technique); Bivalvia; Cephalopoda; Clam; Crab; Crustacea; Fish; Food analysis; Food contamination; Gas chromatography; HPLC; Homogenization; Oyster; Sepiidae; Shrimp (multiresidue detn. of pesticide in fishery products by tandem solid-phase extn. technique); Pesticides (organochlorine; multiresidue detn. of pesticide in fishery products by tandem solid-phase extn. technique); Pesticides (organophosphorus; multiresidue detn. of pesticide in fishery products by tandem solid-phase extn. technique); Pyrethrins Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pyrethroids; multiresidue detn. of synthetic pyrethroid pesticide in fishery products by tandem solid-phase extn. technique); Extraction (solid-phase; multiresidue detn. of pesticide in fishery products by tandem solid-phase extn. technique)
CAS Registry Numbers: 90-15-3 (1-Naphthol) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of 1-naphthol in fishery products by tandem solid-phase extn. technique); 16655-82-6 (3-Hydroxy carbofuran) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of 3-hydroxy carbofuran in fishery products by tandem solid-phase extn. technique); 30560-19-1 (Acephate) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of acephate in fishery products by tandem solid-phase extn. technique); 1646-87-3 (Aldicarb sulfoxide) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of aldicarb sulfoxide in fishery products by tandem solid-phase extn. technique); 62-73-7 (Dichlorvos) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of dichlorvos in fishery products by tandem solid-phase extn. technique); 76-44-8 (Heptachlor) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of heptachlor fishery products by tandem solid-phase extn. technique); 10265-92-6 (Methamidophos) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of methamidophos in fishery products by tandem solid-phase extn. technique); 6923-22-4 (Monocrotophos) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of monocrotophos in fishery products by tandem solid-phase extn. technique); 1113-02-6 (Omethoate) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of omethoate in fishery products by tandem solid-phase extn. technique); 50-29-3; 55-38-9 (Fenthion); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-55-9; 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 119-12-0 (Pyridaphenthion); 121-75-5; 122-14-5 (Fenitrothion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 309-00-2 (Aldrin); 333-41-5; 510-15-6 (Chlorobenzilate); 563-12-2 (Ethion); 584-79-2 (Allethrin); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 944-21-8 (Dyfoxon); 944-22-9 (Fonofos); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1024-57-3 (Heptachlor epoxide); 1129-41-5 (Metolcarb); 1563-66-2 (Carbofuran); 1646-88-4 (Aldicarb sulfone); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2310-17-0 (Phosalone); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2655-14-3 (Macbal); 2921-88-2 (Chlorpyriphos); 3766-81-2 (Fenobucarb); 4824-78-6 (Bromophos-ethyl); 7696-12-0 (Tetramethrin); 7786-34-7 (Mevinphos); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13593-03-8 (Quinalphos); 15972-60-8 (Alachlor); 16709-30-1 (3-Keto carbofuran); 16752-77-5 (Methomyl); 18854-01-8 (Isoxathion); 22781-23-3 (Bendiocarb); 23135-

22-0 (Oxamyl); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-methyl); 33213-65-9 (b-Endosulfan); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenophos); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 59669-26-0 (Thiodicarb); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 67375-30-8 (Alphamethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Betacyfluthrin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 82657-04-3 (Bifenthrin); 89784-60-1 (Pyraclofos); 172838-11-8 (Tokuoxon) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of pesticide in fishery products by tandem solid-phase extn. technique); 75-05-8 (Acetonitrile) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (multiresidue detn. of pesticide in fishery products by tandem solid-phase extn. technique with acetonitrile); 1582-09-8 (Trifluralin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue detn. of trifluralin in fishery products by tandem solid-phase extn. technique)

Citations: 1) Norse, E; Global Marine Biological Diversity: A Strategy for Building Conservation into Decision Making. 32 ed 1993, 383
Citations: 2) Kaphalia, B; J AOAC Int 1990, 73, 509
Citations: 3) World Health Organization; Environmental Health Criteria 1979, 9
Citations: 4) World Health Organization; Environmental health criteria 1989, 83
Citations: 5) Antunes, P; Chemosphere 2004, 54, 1503
Citations: 6) Chan, H; Marine Poll Bull 1999, 39, 346
Citations: 7) Berg, V; Chemosphere 1999, 38, 275
Citations: 8) Sapozhnikova, Y; Chemosphere 2004, 55, 797
Citations: 9) Maiti, P; Toxicol Letters 1997, 91, 1
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Citations: 12) El-Gohary, M; Toxicology 1999, 132, 1
Citations: 13) Silvestroni, L; Chemosphere 1999, 39, 1249
Citations: 14) Chatterjee, S; Comp Biochem Physiol C 2001, 129, 265
Citations: 15) Grunfeld, H; Toxicol Letters 2004, 151, 467
Citations: 16) Vinggaard, A; Toxicol in Vitro 2000, 14
Citations: 17) FDA; Pesticides Analytical Manual 1999, 1(FDA 2905a (6/92))
Citations: 18) Mendez, E; Food Chem 1997, 59, 213
Citations: 19) Conte, E; J Chromatogr A 1997, 765, 121
Citations: 20) Camel, V; Trends Anal Chem 2000, 19, 229
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Citations: 22) Suchan, P; Analytica Chimica Acta 2004, 520, 193
Citations: 23) Kohler, P; Chromatographia 1986, 21, 531
Citations: 24) Molto, J; Int J Environ Anal Chem 1990, 41, 21
Citations: 25) Walker, C; J Chromatogr 1993, 642, 225
Citations: 26) Sun, F; J Food Drug Anal 2000, 8, 103
Citations: 27) Sun, F; J Food Drug Anal 2003, 11, 258
Citations: 28) Schenck, F; The 114th AOAC International Meeting and Exposition Conference (Poster Presentation) 2000
Citations: 29) Hernandez, F; J AOAC Int 1996, 79, 123
Citations: 30) Marquis, P; Chemosphere 1994, 29, 509
Citations: 31) Schenck, F; J AOAC Int 1996, 79, 1215
Citations: 32) Schenck, F; J AOAC Int 1996, 79, 1209
Citations: 33) Hernandez, F; Analytica Chimica Acta 1998, 374, 215
Citations: 34) Serrano, R; J Chromatogr 1997, 778, 151
Citations: 35) AOAC International; Official Methods of Analysis. 16th ed 1995, 970.52
Citations: 36) Gillespie, A; J AOAC Int 1995, 78, 431 In order to simplify the survey of pesticide (including carbamate, organochlorine, organophosphate and synthetic pyrethroid pesticides) residues in fishery products (including bivalve, crustacean, fish and cuttlefish), multiresidue detn. methods were developed through a solid phase extn. (SPE) technique. In the present procedures, samples were extd. with acetonitrile except for bivalve and cuttlefish samples. Mixed solvent of water, acetone and acetonitrile was added to bivalve prior to homogenization, whereas water was

needed in cuttlefish samples for blending. For both kinds of sample, an addnl. procedure of salting-out was needed during extn. Tandem SPE cartridges of C18 and aminopropyl, using acetonitrile as the only solvent, were used to clean up exts. from either method. A total of 91 pesticides in four major pesticide groups were tested in this study. Gas chromatog. (GC, equipped with electron capture detector and flame photometric detector) and high-performance liq.-chromatog. (HPLC) equipped with fluorescence detector were used for anal. The validation of the method was evaluated for each fishery product using samples spiked with all pesticide stds. at three concn. levels. The results indicated percentage of recovery ranged from 60% - 120% and coeffs. of variation < 20% for all but 10 of the pesticides analyzed (including 1-naphthol, 3-hydroxy carbofuran, aldicarb sulfoxide, heptachlor, trifuralin, acephate, dichlorvs, methamidophos, monocrotophos and omethoate). Residue extn. techniques described in this report are rapid and suitable for screening of pesticide residues in monitoring programs. [on SciFinder (R)] 1021-9498 pesticide/ detn/ fish/ crustacean/ contamination/ GC/ HPLC

1260. Surette, D. P. and Mallet, V. N. (Inorganic Salts in the Fluorometric Detection of Pesticides. *J. Chromatogr. 107(1): 141-148* 1975..
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. A method is described for the detection and quantification of pesticides on silica gel chromatograms by in situ fluorometry. Simple organic salts are used to induce fluorescence in a number of pesticidal compounds. Intensified fluorescence is shown for one naturally fluorescent pesticide. Spectral data and instrumental limits of detection are given. Of the total of 64 pesticides tested, positive results were obtained for captan, devrinol (napropamide), difolatan, diquat, maretin (phosmet), menazon, naptalam, propyl isome, paraquat, and rotenone. (Author abstract by permission, supplemented.)

1261. Suter, H. C., White, R. E., Heng, L. K., and Douglas, L. A (2002). Sorption and degradation characteristics of phosmet in two contrasting Australian soils. *Journal of Environmental Quality* 31: 1630-1635.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:753530
Chemical Abstracts Number: CAN 137:321553
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 19, 61
Document Type: Journal
Language: written in English.
Index Terms: Adsorption; Decomposition kinetics; Desorption (of phosmet in clay soil and sandy soil of Australia); Insecticides (organophosphorus; sorption and degrdn. characteristics of phosmet in clay soil and sandy soil of Australia); Soil organic matter (phosmet sorption and degrdn. in clay soil and sandy soil of Australia in relation to); Clays Role: GOC (Geological or astronomical occurrence), OCCU (Occurrence) (phosmet sorption and degrdn. in clay soil and sandy soil of Australia in relation to); Soils (sorption and degrdn. characteristics of phosmet in Ferrosol and Podosol soils of Australia)
CAS Registry Numbers: 7440-44-0 (Carbon) Role: GOC (Geological or astronomical occurrence), OCCU (Occurrence) (org.; phosmet sorption and degrdn. in clay soil and sandy soil of Australia in relation to); 732-11-6 (Imidan) Role: CPS (Chemical process), PEP (Physical, engineering or chemical process), PYP (Physical process), PROC (Process) (sorption and degrdn. characteristics of phosmet in clay soil and sandy soil of Australia)
Citations: Boesten, J; J Environ Qual 1991, 20, 425
Citations: Chiou, C; Environ Sci Technol 1977, 11, 475
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Citations: Greaves, A; NZ J Crop Hortic Sci 1992, 20, 313
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Citations: Kookana, R; Aust J Soil Res 1994, 32, 1141
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Citations: Sanchez Martin, M; Soil Sci 1991, 152, 283
Citations: Singh, R; Proc of a Natl Workshop on Persistence of Herbicide Residues in Wheat Cropping Systems in Australia 1988
Citations: Singh, R; Aust J Soil Res 1989, 28, 227
Citations: USEPA; Pesticide fact handbook 1988
Citations: Wood, L; J Environ Qual 1987, 16, 251
Citations: Yaron, B; Agric Ecosyst Environ 1989, 26, 275 The organophosphate insecticide phosmet [phosphorodithioic acid, s-((1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl), o,o-di-Me ester] is used to control red-legged earth mites (Halotydeus destructor), lucerne flea (Sminthurus viridis), and Oriental fruit moth (Cydia molesta) in horticulture and vegetable growing. This study was undertaken with two soils of contrasting properties to det. the extent to which sorption and degrdn. of the insecticide might influence its potential to leach from soil into receiving waters. Two soils were used: a highly org., oxidic clay soil (Ferrosol) and a sandy soil low in org. matter (Podosol), sampled to 0.3 m depth. The extent of sorption and decompn. rate of a phosmet com. formulation were measured in lab. expts. Sorption followed a Freundlich isotherm at all depths. The Freundlich coeff. K was significantly correlated ($p = 0.005$) with org. C content in the Podosol, and significantly correlated ($p = 0.005$) with org. C and clay content in the Ferrosol. K was highest (48.8 L kg-1) in the 0- to 0.05-m depth of the Ferrosol, but lowest (1.0 L kg-1) at this depth in the Podosol. Degrdn. followed first-order kinetics, with the phosmet half-life ranging from 14 h (0-0.05 m depth) to 187 h (0.2-0.3 m depth) in the Ferrosol. The half-life was much longer in the sandy Podosol, ranging from 462 to 866 h, and did not change significantly with depth. Soil org. C and to a lesser degree clay content influenced phosmet sorption and degrdn., but the interaction was complex and possibly affected by cosolvents present in the com. formulation (Imidan EC 150). [on SciFinder (R)] 0047-2425 phosmet/ sorption/ degrdn/ kinetics/ soil;/ organophosphate/ insecticide/ sorption/ degrdn/ soil

1262. Svobodova, Z. and Studnicka, M. (1974). Acetylcholine Hydrolase Activity in Fish After Organophosphorous Pesticide Intoxication. *Bul.Vyzk.Ustav.Ryb.Hydrobiol.Vodnany* 10: 24-28 (RUS).
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

1263. Swift, John E (1976). Organophosphate exposure from agricultural usage.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Database: CAPLUS
Accession Number: AN 1978:109856
Chemical Abstracts Number: CAN 88:109856
Section Code: 59-3
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5
Document Type: Report
Language: written in English.
Index Terms: Lime Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (occupational exposure to, health hazards of); Health hazard   (occupational, of pesticide exposure); Pesticides   (organophosphorus, occupational exposure to, health hazards of)
CAS Registry Numbers: 7778-43-0 Role: ADV (Adverse effect, including toxicity), BIOL

(Biological study)   (occupational exposure to, health hazard of); 50-31-7; 56-38-2; 57-13-6; 58-89-9; 60-51-5; 61-82-5; 63-25-2; 66-81-9; 74-83-9; 74-87-3; 75-60-5; 75-99-0; 86-50-0; 94-75-7; 96-12-8; 101-05-3; 115-29-7; 115-32-2; 116-06-3; 121-75-5; 122-34-9; 127-20-8; 133-06-2; 140-56-7; 145-73-3; 298-02-2; 300-76-5; 315-18-4; 333-41-5; 333-41-5; 463-77-4; 510-15-6; 534-52-1; 542-75-6; 732-11-6; 759-94-4; 957-51-7; 1071-83-6; 1114-71-2; 1134-23-2; 1194-65-6; 1582-09-8; 1610-18-0; 1861-40-1; 1897-45-6; 2212-67-1; 2310-17-0; 2312-35-8; 2425-06-1; 2764-72-9; 4685-14-7; 4726-14-1; 7440-66-6; 7704-34-9; 7758-98-7; 7775-09-9; 7775-19-1; 7784-40-9; 7786-34-7; 8001-35-2; 8003-19-8; 8018-01-7; 8022-00-2; 8071-35-0; 9003-11-6; 12789-03-6; 13121-70-5; 15096-52-3; 16752-77-5; 17804-35-2; 25620-62-6; 59928-80-2; 63665-23-6; 64491-74-3; 65859-56-5; 65863-00-5; 65863-01-6; 65863-02-7; 65863-04-9; 114797-54-5 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study)   (occupational exposure to, health hazards of) Illness caused by exposure of agricultural workers to organophosphate pesticides (1157 reported cases) occurred most frequently among ground applicators (229) and mixer/loaders (142); the lack of or refusal to use safety equipment, e.g., goggles, is a major factor. Other groups affected were gardeners (101), field workers exposed to pesticide residues (117), nursery and greenhouse workers (75), soil fumigators in agriculture (29), equipment cleaners and mechanics (28), tractor drivers and irrigators (23), workers exposed to drift (22), pilots (crop dusters) (17), and flaggers for aerial application (6). Most illnesses were a result of carelessness, lack of knowledge of the hazards, lack of safety equipment, and of the dry, hot conditions, which allow a buildup of pesticide-contg. dust on the crops and which mitigate against the use of protective clothing. [on SciFinder (R)] organophosphorus/ pesticide/ hazard/ agricultural/ worker;/ safety/ organophosphorus/ pesticide

1264. Szalay-Marzso, L (1971). Effect of fungicides and insecticides on the biological activity of Bacillus thuringiensis preparations. *American College of Physicians, Bulletin* 6: 295-307.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1972:430309
Chemical Abstracts Number: CAN 77:30309
Section Code: 5-4
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
Index Terms: Fungicides and Fungistats; Insecticides   (Bacillus thuringiensis insecticidal activity in relation to); Hyphantria cunea   (control of, Bacillus thuringiensis compatibility with insecticides and fungicides in); Bacillus thuringiensis   (insecticidal activity of, fungicide and insecticide effect on)
CAS Registry Numbers: 50-29-3; 52-68-6; 55-38-9; 62-73-7; 86-50-0; 121-75-5; 300-76-5; 502-39-6; 732-11-6; 950-37-8; 2425-06-1; 6119-92-2; 7758-98-7; 13171-21-6 Role: BAC (Biological activity or effector, except adverse), BSU (Biological study, unclassified), BIOL (Biological study)   (Bacillus thuringiensis insecticidal activity in relation to) At 0.5% concn., DDT [50-29-3], Karathane [6119-92-2], Dibrom [300-76-5], Panogen [502-39-6], copper sulfate [10124-44-4], and Difolatan [2425-06-1] reduced by >20% the no. of colonies of B. thuringiensis on agar plates. In field expts. against the fall webworm, Hyphantria cunea, Ditrifon [52-68-6], Gusathion [2642-71-9], Imidan [732-11-6], Lebaycid [55-38-9], malathion [121-75-5], Nogos [62-73-7], phosphamidon [13171-21-6], and Ultracid [950-37-8] showed good compatibility with B. thuringiensis. Using combinations increased effectiveness even though the insecticides were applied at one-tenth the recommended concns. [on SciFinder (R)] Difolatan/ Bacillus/ thuringiensis;/ fungicide/ Bacillus/ thuringiensis;/ insecticide/ Thuricide/ mixt

1265. Szalontai, Gabor (1976). High-performance liquid chromatography of organophosphorus insecticides. *Journal of Chromatography* 124: 9-16.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1976:538389
Chemical Abstracts Number: CAN 85:138389
Section Code: 5-1
Section Title: Agrochemicals
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (phosphorus-contg., high-performance liq. chromatog. of)
CAS Registry Numbers: 52-68-6; 56-38-2; 60-51-5; 62-73-7; 86-50-0; 121-75-5; 141-66-2; 298-00-0; 298-02-2; 299-84-3; 299-86-5; 300-76-5; 732-11-6; 786-19-6; 944-22-9; 2310-17-0; 2597-03-7; 6923-22-4; 7700-17-6; 7786-34-7; 13171-21-6; 22248-79-9; 22350-76-1 Role: ANT (Analyte), ANST (Analytical study) (high-performance liq. chromatog. of) The high-performance liq. chromatog. behavior of 23 organophosphorus insecticides was studied on a stainless-steel column packed with silica gel. The usual classification of organophosphorus compds. into phosphonic, phosphoric, thiophosphoric and dithiophosphoric acid ester types gives some information about their adsorption properties. The chromatog. conditions of the analyses and a method for sepn. of the stereoisomers of tetrachlorvinphos were presented. [on SciFinder (R)] 0021-9673 liq/ chromatog/ phosphorus/ insecticide

1266. Szego, Andras, Pap, Laszlo, Nagy, Lajos, Somfai, Eva, Szycsany, Gyorgy, Szekely, Istvan, Deak, Anikp, and Hegedus, Agnes (19891011). Plant protecting agent. 13 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1990:174105
Chemical Abstracts Number: CAN 112:174105
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: EPXXDW
Index Terms: Potato (control of potato beetle on leaves of, with ultra-low-vol. formulation); Sunflower (control of worms of fulvous clover on, with ultra-low-vol. insecticidal formulations); Louse (control of, on winter wheat, with ultra-low-vol. insecticidal formulations); Heliothis maritima; Leptinotarsa decemlineata (control of, with ultra-low-vol. insecticidal formulations); Pyrethrins and Pyrethroids Role: BIOL (Biological study) (insecticidal ULV formulations contg.); Contact angle (of ultra-low-vol. insecticidal formulations, adjuvants effect on); Insecticides (ultra-low-vol. formulations of, contg. aliph. hydrocarbons and sunflower oil and wetting reagents); Hydrocarbon oils; Paraffin oils; Polyethers; Sunflower oil Role: BIOL (Biological study) (ultra-low-vol. insecticidal formulations contg.); Wheat (winter, lice control on, with ultra-low-vol. insecticidal formulations)
CAS Registry Numbers: 52-68-6; 55-38-9 (Fenthion); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 141-66-2 (Dicrotophos); 298-00-0 (Methylparathion); 301-12-2; 584-79-2 (Bioallethrin); 732-11-6 (Phosmet); 950-37-8; 2104-64-5 (EPN); 2310-17-0 (Phosalon); 2597-03-7; 2642-71-9 (Azinphos-ethyl); 2921-88-2; 6923-22-4 (Monocrotophos); 7292-16-2 (Propaphos); 7696-12-0 (Tetramethrin); 7786-34-7 (Mevinphos); 8065-48-3 (Demeton); 10453-86-8 (Resmethrin); 13171-21-6 (Phosphamidon); 13593-03-8 (Quinalphos); 24017-47-8 (Triazophos); 26002-80-2 (Phenothrin); 28434-01-7 (Bioresmethrin); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 39515-41-8 (Fenpropathrin); 41198-08-7; 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69409-94-5 (Fluvalinate); 70124-77-5; 82657-04-3 (Bifenthrin) Role: BIOL (Biological study) (insecticidal ULV formulations contg.); 9016-45-9 Role: BIOL (Biological study) (ultra-low-vol. insecticidal formulations contg.)
Reg.Pat.Tr.Des.States: Designated States R: ES, GR.

Patent Application Country: Application: EP
Priority Application Country: HU
Priority Application Number: 88-1723
Priority Application Date: 19880407 Insecticidal spray drops having a lengthened retention time and enhanced activity were prepd. contg.-pyrethroids and/or org. phosphates or thiophosphates dissolved in aliph. hydrocarbons and sunflower oil and contg. an alkylaryl polyglycol ether. Thus, a mixt. of cypermethrin 20, nonylphenol polyglycol ether 15, and Exxsol D 100 200 g/L in 1000 mL sunflower oil (applied by ULVA-system) caused 100% knockdown of potato beetle 0-20 min after spraying, and 90% knockdown after 12 h spraying. The contact angles on sunflower leaves were 24, 10 and 8 Deg after 0, 20 and 120 min, resp. [on SciFinder (R)] A01N025-02. insecticide/ ULV/ formulation/ adjuvant/ contact/ angle

1267. Tafuri, J. and Roberts, J. (1987). Organophosphate Poisoning. *Ann emerg med* 16: 193-202.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW HUMAN INSECTICIDES DIAGNOSIS THERAPY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: THERAPEUTICS
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Biochemical Studies-General
KEYWORDS: Pathology
KEYWORDS: Pathology
KEYWORDS: Toxicology-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Hominidae
LANGUAGE: eng

1268. Takahashi, K., Ishii, R., Iijima, M., and Hoshino, Y. (1995). Studies on Analysis of Organophosphorus, Pyrethroid and Organonitrogen Pesticides in Vegetables and Fruits. *Journal of the food hygienic society of japan* 36: 607-612.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Systematic determination of organophosphorus, pyrethroid and organonitrogen pesticides in vegetables and fruits by GC was developed. Pesticides were extracted from samples using acetone, and re-extracted into hexane.

Organophosphorus pesticides in the extract were directly determined by FPD-GC. For determination of pyrethroid (ECD-GC) and organonitrogen (NPD-GC) pesticides, the extract was purified by Florisil column chromatography using 30% ethyl acetate-hexane. The detection limits were 0.005-0.02 ppm for pesticides. Organophosphorus, pyrethroid and organonitrogen pesticides were spiked at 0.1 ppm, 0.2 ppm and 0.2 ppm, respectively. Except for dimethoate, ethiofencarb and lenacil, recoveries of pesticides were over 60%.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: VEGETABLES
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Food Technology-Fruits
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Food Technology-Preparation
KEYWORDS: Toxicology-Foods
KEYWORDS: Pest Control
LANGUAGE: jpn

1269. Takashima, Shiro, Kuchumov, Askar R., and Vinogradov, Serge N. (1999). The apparently symmetrical hexagonal bilayer hemoglobin from Lumbricus terrestris has a large dipole moment. *Biophysical Chemistry* 77: 27-35.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The giant ~3.6 MDa hexagonal bilayer hemoglobin (HBL Hb) from Lumbricus terrestris consists of 12 213-kDa dodecamers of four globin chains ([b+a+c]3[d]3) tethered to a central scaffold of ~36 non-globin, linker subunits L1-L4 (24-32 kDa). Three-dimensional reconstructions obtained by electron cryomicroscopy showed it to have a D6 point-group symmetry, with the two layers rotated ~16[degree sign] relative to each other. Measurement of the dielectric constants of the Hb and the dodecamer over the frequency range 5-100 kHz indicated relaxation frequencies occurring at 20-40 and 300 kHz, respectively, substantially lower than the 700-800 kHz in HbA. The dipole moments calculated using Oncley's equation were 17[punctuation space]300+/-2300 D and 1400 D for the Hb and dodecamer, respectively. The approximately threefold higher dipole moment of the dodecamer relative to HbA is consistent with an asymmetric shape in solution suggested by small-angle X-ray scattering. Although a two-term Debye equation and a prolate ellipsoid of revolution model provided a good fit to the experimental dielectric dispersion of the dodecamer, a three-term Debye equation based on an oblate ellipsoid of revolution model was required to fit the asymmetric dielectric dispersion curve of the Hb: the required additional term may represent either an induced dipole moment or a substructure which rotates independently of the main permanent dipole component of the Hb. The D6 point-group symmetry implies that the dipole moments of the dodecamers cancel out. Thus, in addition to a possible contribution from fluctuations of the proton distribution, the large dipole moment of the Hb may be due to an asymmetric distribution of the heterogeneous linker subunits. Dipole moment/ Hemoglobin/ Dodecamer subunit/ Lumbricus terrestris http://www.sciencedirect.com/science/article/B6TFB-3W081CH-3/2/c368619dcbab7763f3729ecbd403a725

1270. Talanov, G. A. (1978). Pesticide Movement in the Organism of Farm Animals. *In:EPA-600/9-78-003, Symp.Environ.Transp.Transform.Pestic., U.S.Environ.Prot.Agency, Off.Res.Dev., Report* 190, 193 (PB-280714).
Chem Codes: Chemical of Concern: DZ,AND,HCCH,DDT Rejection Code: FATE/REFS CHECKED/REVIEW.

1271. Tamarkin, Dov, Friedman, Doron, and Eini, Meir (20070125). Nonflammable insecticidal foams for treating parasite infestations. 16pp., Cont.-in-part of U.S. Ser. No. 532,618.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:88149
Chemical Abstracts Number: CAN 146:178833
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 63
Coden: USXXCO
Index Terms: Alcohols Role: BUU (Biological use, unclassified), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (C24-34; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (Melaleuca; in nonflammable insecticidal foams for treating parasite infestations); Fungicides (action mechanism; in nonflammable insecticidal foams for treating parasite infestations); Insect-molting hormones Role: BSU (Biological study, unclassified), BIOL (Biological study) (agonists; nonflammable insecticidal foams for treating parasite infestations); Juvenile hormones Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (analogs; nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (anise; in nonflammable insecticidal foams for treating parasite infestations); Wart (antiwart agents; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (bergamot; in nonflammable insecticidal foams for treating parasite infestations); Adhesives (biol.; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (cassia; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (catnip or styrax or white clover; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (cedarwood; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (citronella; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (clove; in nonflammable insecticidal foams for treating parasite infestations); Peptides Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (compds.; in nonflammable insecticidal foams for treating parasite infestations); Carboxylic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (dicarboxylic; in nonflammable insecticidal foams for treating parasite infestations); Parasiticides (ecto-; nonflammable

insecticidal foams for treating parasite infestations); Fatty acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (essential; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (eucalyptus; in nonflammable insecticidal foams for treating parasite infestations); Alcohols Role: BUU (Biological use, unclassified), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (fatty; in nonflammable insecticidal foams for treating parasite infestations); Pesticide formulations (foams; nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (garlic; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (ginger; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (grapefruit; in nonflammable insecticidal foams for treating parasite infestations); Terpenes Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (hydroxy, esters; in nonflammable insecticidal foams for treating parasite infestations); Carboxylic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (hydroxy; in nonflammable insecticidal foams for treating parasite infestations); Allergy inhibitors; Anesthetics; Antibiotics; Antioxidants; Antitumor agents; Antiviral agents; Cytotoxic agents; Disinfectants; Fungicides; Gelation agents; Immunomodulators; Immunosuppressants; Insect repellents; Lubricants; Oxidizing agents; Phase change materials; Photosensitizers; Polar solvents; Radical scavengers; Skin-lightening cosmetics; Surfactants; Wound healing promoters; Wrinkle-preventing cosmetics (in nonflammable insecticidal foams for treating parasite infestations); Allergens; Antigens; Canola oil; Haptens; Hormones; Jojoba oil; Metals; Neuropeptides; Oxides; Peptides; Proteins; Retinoids; Terpenes Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (in nonflammable insecticidal foams for treating parasite infestations); Carbamates; Diterpenes; Fatty acids; Triterpenes Role: BUU (Biological use, unclassified), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (lavender; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (lemon; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (lime; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (mandarin orange; in nonflammable insecticidal foams for treating parasite infestations); Insecticides; Pediculus humanus capitis; Quassia; Schoenocaulon (nonflammable insecticidal foams for treating parasite infestations); Cinerins; Hormones; Pyrethrins Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (nonflammable insecticidal foams for treating parasite infestations); Human (nonflammable insecticidal foams for treating parasite infestations on); Emulsions (oil-in-water; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (orange, sour; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (orange, sweet; in nonflammable insecticidal foams for treating parasite infestations); Carriers (org. and hydrophobic; in nonflammable insecticidal foams for treating parasite infestations); Insecticides (organochlorine; nonflammable insecticidal foams for treating parasite infestations); Insecticides (organophosphorus; nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (peppermint; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (pine; in nonflammable insecticidal foams for treating parasite infestations); Alcohols Role: BUU (Biological use, unclassified), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (polyhydric; in nonflammable insecticidal foams for treating parasite infestations); Pyrethrins Role: BUU (Biological use, unclassified), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (pyrethroids; in nonflammable insecticidal foams for treating

parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (rosemary; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (sage, Salvia officinalis; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (spearmint; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (star anise; in nonflammable insecticidal foams for treating parasite infestations); Anti-inflammatory agents (steroidal; in nonflammable insecticidal foams for treating parasite infestations); Essential oils Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (thyme, Thymus vulgaris; in nonflammable insecticidal foams for treating parasite infestations); Drug delivery systems (topical; in nonflammable insecticidal foams for treating parasite infestations); Emulsions (water-in-oil; in nonflammable insecticidal foams for treating parasite infestations)
CAS Registry Numbers: 201593-84-2 Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (Bistrifluron; nonflammable insecticidal foams for treating parasite infestations); 584-79-2 (Allethrin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (bioallethrin; nonflammable insecticidal foams for treating parasite infestations); 50-21-5 (Lactic acid); 50-81-7 (Vitamin C); 50-81-7D (Vitamin C); 78-70-6 (Linalool); 79-14-1 (Glycolic acid); 89-79-2 (Isopulegol); 97-42-7 (Carvyl acetate); 97-45-0 (Carvyl propionate); 98-88-4 (Benzoyl chloride); 99-48-9 (Carveol); 106-22-9; 106-24-1 (Geraniol); 106-25-2 (Nerol); 110-17-8 (Fumaric acid); 111-20-6 (Sebacic acid); 123-99-9 (Azelaic acid); 124-04-9 (Adipic acid); 134-62-3 (Diethyltoluamide); 514-99-8 (Myrtanol); 515-00-4 (Myrtenol); 536-59-4 (Perillyl alcohol); 562-74-3 (Terpinen-4-ol); 1314-13-2 (Zinc oxide); 1314-23-4 (Zirconium oxide); 1332-37-2 (Iron oxide); 1406-16-2 (Vitamin D); 1406-16-2D (Vitamin D); 1406-18-4 (Vitamin E); 1406-18-4D (Vitamin E); 1490-04-6 (Menthol); 1845-30-3 (cis-Verbenol); 7440-22-4 (Silver); 7440-44-0 (Carbon); 7631-86-9 (Silicon oxide); 7778-54-3 (Calcium hypochlorite); 8000-41-7 (Terpineol); 10233-03-1 (Magnesium hypochlorite); 11103-57-4 (Vitamin A); 11103-57-4D (Vitamin A); 12001-76-2 (Vitamin B); 12001-76-2D (Vitamin B); 12001-79-5 (Vitamin K); 12001-79-5D (Vitamin K); 13463-67-7 (Titanium dioxide); 14807-96-6 (Talc); 27779-29-9 (Iso-pinocampheol); 38049-26-2 (Dihydrocarveol) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (in nonflammable insecticidal foams for treating parasite infestations); 51-03-6 (Piperonyl butoxide); 57-10-3 (Hexadecanoic acid); 57-11-4 (Stearic acid); 57-55-6 (Propylene glycol); 67-68-5 (DMSO); 68-12-2 (Dimethylformamide); 100-51-6 (Benzyl alcohol); 106-14-9 (12-Hydroxystearic acid); 106-32-1 (Ethyl caprylate); 107-41-5 (Hexylene glycol); 111-46-6 (Diethylene glycol); 111-62-6 (Ethyl oleate); 111-90-0 (Transcutol); 112-85-6 (Behenic acid); 112-92-5 (Stearyl alcohol); 118-74-1 (Hexachlorobenzene); 127-19-5 (Dimethylacetamide); 138-86-3 (Limonene); 506-30-9 (Arachidic acid); 506-48-9 (Octacosanoic acid); 593-50-0 (1-Triacontanol); 629-96-9 (Arachidyl alcohol); 646-06-0 (Dioxolane); 652-67-5D (Isosorbide); 661-19-8 (Behenyl alcohol); 872-50-4 (N-Methylpyrrolidone); 3079-30-9 (Methyl dodecyl sulfoxide); 3445-11-2; 4353-06-4 (2-(n-Nonyl)-1,3-dioxolane); 5306-85-4 (Dimethyl isosorbide); 6938-94-9 (Diisopropyl adipate); 9003-39-8 (Polyvinylpyrrolidone); 25265-75-2 (Butanediol); 31692-85-0 (Glycofurol); 36653-82-4 (Cetyl alcohol); 59227-89-3 (Azone); 764659-91-8 (Terpenol) Role: BUU (Biological use, unclassified), MOA (Modifier or additive use), BIOL (Biological study), USES (Uses) (in nonflammable insecticidal foams for treating parasite infestations); 50-29-3 (DDT); 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 70-38-2 (Dimethrin); 70-43-9 (Barthrin); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 78-53-5 (Amiton); 78-57-9 (Menazon); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 87-86-5 (Pentachlorophenol); 97-11-0 (Cyclethrin); 97-17-6 (Dichlofenthion); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-29-7 (Endosulfan); 115-90-2 (Fensulfothion); 115-93-5 (Cythioate); 116-01-8 (Ethoate-methyl); 116-06-3 (Aldicarb); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-15-6 (Dimetan); 126-22-7 (Butonate); 131-89-5 (Dinex); 141-66-2 (Dicrotophos); 143-50-0; 144-41-2 (Morphothion); 152-16-9 (Schradan); 297-78-9 (Isobenzan); 298-00-0 (Parathion-

methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 299-86-5 (Crufomate); 301-12-2 (Oxydemeton-methyl); 309-00-2 (Aldrin); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronat); 333-41-5 (Diazinon); 370-50-3 (Flucofuron); 371-86-8 (Mipafox); 465-73-6 (Isodrin); 470-90-6 (Chlorfenvinphos); 483-63-6 (Crotamiton); 494-52-0 (Anabasine); 563-12-2 (Ethion); 572-48-5 (Coumithoate); 640-15-3 (Thiometon); 644-64-4 (Dimetilan); 671-04-5 (Carbanolate); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-54-0 (Acethion); 919-76-6 (Amidithion); 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1129-41-5 (Metolcarb); 1491-41-4 (Naftalofos); 1563-66-2 (Carbofuran); 1563-67-3 (Decarbofuran); 1646-88-4 (Aldoxycarb); 1715-40-8 (Bromocyclen); 1716-09-2 (Fenthion-ethyl); 2032-59-9 (Aminocarb); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2274-67-1 (Dimethylvinphos); 2275-14-1 (Phenkapton); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2425-10-7 (Xylylcarb); 2463-84-5 (Dicapthon); 2497-07-6 (Oxydisulfoton); 2540-82-1 (Formothion); 2550-75-6 (Chlorbicyclen); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2633-54-7 (Trichlormetaphos-3); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2655-19-8 (Butacarb); 2669-32-1 (Lythidathion); 2674-91-1 (Oxydeprofos); 2778-04-3 (Endothion); 2921-88-2 (Chlorpyrifos); 2990-17-2 (Bromo-DDT); 3383-96-8 (Temephos); 3604-87-3 (a-Ecdysone); 3689-24-5 (Sulfotep); 3734-95-0 (Cyanthoate); 3761-41-9 (Mesulfenfos); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 4097-36-3 (Dinosam); 4151-50-2 (Sulfluramid); 4234-79-1 (Kelevan); 4466-14-2; 4824-78-6 (Bromophos-ethyl); 5221-49-8 (Pyrimitate); 5289-74-7 (Ecdysterone); 5598-13-0 (Chlorpyrifos-methyl); 5598-52-7 (Fospirate); 5826-76-6 (Phosnichlor); 5834-96-8 (Azothoate); 5989-27-5; 6164-98-3 (Chlordimeform); 6392-46-7 (Allyxycarb); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7219-78-5 (Mazidox); 7257-41-2 (Dinoprop); 7292-16-2 (Propaphos); 7681-49-4 (Sodium fluoride); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8001-35-2 (Camphechlor); 8065-36-9 (Bufencarb); 8065-48-3 (Demeton); 8065-62-1 (Demephion); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifos); 10453-86-8 (Resmethrin); 10537-47-0 (Malonoben); 11141-17-6 (Azadirachtin); 12407-86-2 (Trimethacarb); 12789-03-6 (Chlordane); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 13593-08-3 (Quinalphos-methyl); 14168-01-5 (Dilor); 14255-88-0 (Fenazaflor); 14816-16-1 (Phoxim-methyl); 14816-18-3 (Phoxim); 14816-20-7 (Chlorphoxim); 15096-52-3 (Cryolite); 15263-53-3 (Cartap); 15589-31-8 (Terallethrin); 15662-33-6 (Ryania); 16752-77-5 (Methomyl); 16893-85-9 (Sodium hexafluorosilicate); 17080-02-3 (Furethrin); 17125-80-3 (Barium hexafluorosilicate); 17606-31-4 (Bensultap); 17702-57-7 (Formparanate); 18181-70-9 (Jodfenphos); 18854-01-8 (Isoxathion); 19691-80-6 (Athidathion); 20276-83-9 (Prothidathion); 20425-39-2 (Pyresmethrin); 21548-32-3 (Fosthietan); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22259-30-9 (Formetanate); 22431-62-5 (Bioethanomethrin); 22439-40-3 (Quinothion); 22662-39-1 (Rafoxanide); 22781-23-3 (Bendiocarb); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphos-ethyl); 23526-02-5 (Thuringiensin); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 24019-05-4 (Sulcofuron); 24353-61-5 (Isocarbophos); 24934-91-6 (Chlormephos); 25171-63-5 (Thiocarboxime); 25311-71-1 (Isofenphos); 25601-84-7 (Methocrotophos); 26002-80-2 (Phenothrin); 28434-01-7 (Bioresmethrin); 29173-31-7 (Mecarphon); 29232-93-7 (Pirimiphos-methyl); 29672-19-3 (Nitrilacarb); 29973-13-5 (Ethiofencarb); 30087-47-9 (Fenethacarb); 30560-19-1 (Acephate); 30864-28-9 (Methacrifos); 31218-83-4 (Propetamphos); 31377-69-2 (Pirimetaphos); 31895-21-3 (Thiocyclam); 33089-61-1 (Amitraz); 33399-00-7 (Bromfenvinfos); 34264-24-9 (Promacyl); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35367-31-8 (Penfluron); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 35764-59-1 (Cismethrin); 36145-08-1 (Chlorprazophos); 36614-38-7 (Isothioate); 37032-15-8 (Sophamide); 38260-54-7 (Etrimfos); 38260-63-8 (Lirimfos); 38524-82-2 (Trifenofos); 38527-91-2 (Etaphos); 39196-18-4 (Thiofanox); 39247-96-6 (Primidophos); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40085-57-2 (Tazimcarb); 40596-69-8 (Methoprene); 40596-80-3 (Triprene); 40626-35-5 (Heterophos); 41096-46-2 (Hydroprene); 41198-08-7 (Profenofos); 41219-31-2 (Dithicrofos); 41219-32-3 (Thicrofos); 42509-80-8 (Isazofos); 42588-37-4 (Kinoprene); 50512-35-1 (Isoprothiolane); 51487-69-5 (Cloethocarb); 51596-10-2 (Milbemectin); 51630-58-1

(Fenvalerate); 51877-74-8 (Biopermethrin); 52207-48-4 (Thiosultap sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 54406-48-3 (Empenthrin); 54593-83-8 (Chlorethoxyfos); 55285-14-8 (Carbosulfan); 56716-21-3 (Hyquincarb); 57342-02-6 (Epofenonane); 57808-65-8 (Closantel); 58481-70-2 (Dicresyl); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 60238-56-4 (Chlorthiophos); 60589-06-2 (Metoxadiazone); 61444-62-0 (Nifluridide); 61949-77-7 (trans-Permethrin); 63771-69-7 (Zolaprofos); 63935-38-6 (Cycloprothrin); 64628-44-0 (Triflumuron); 65400-98-8 (Fenoxacrim); 65691-00-1 (Triarathene); 65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 67375-30-8 (Alpha-cypermethrin); 67485-29-4 (Hydramethylnon); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68523-18-2 (Fenpirithrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 70288-86-7 (Ivermectin); 71422-67-8 (Chlorfluazuron); 71697-59-1 (Theta-cypermethrin); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 72963-72-5 (Imiprothrin); 73989-17-0 (Avermectin); 75867-00-4 (Fenfluthrin); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 80844-07-1 (Etofenprox); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 83733-82-8 (Fosmethilan); 86479-06-3 (Hexaflumuron); 89784-60-1 (Pyraclofos); 90338-20-8 (Butathiofos); 95465-99-9 (Cadusafos); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Tebupirimfos); 96489-71-3 (Pyridaben); 101007-06-1 (Acrinathrin); 101463-69-8 (Flufenoxuron); 103055-07-8 (Lufenuron); 103782-08-7 (Allosamidin); 105024-66-6 (Silafluofen); 105779-78-0 (Pyrimidifen); 107713-58-6 (Flufenprox); 111872-58-3 (Halfenprox); 111988-49-9 (Thiacloprid); 112143-82-5 (Triazamate); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 112636-83-6 (Dicyclanil); 113036-88-7 (Flucycloxuron); 113507-06-5 (Moxidectin); 116714-46-6 (Novaluron); 117704-25-3 (Doramectin); 118712-89-3 (Transfluthrin); 119168-77-3 (Tebufenpyrad); 119544-94-4 (Protrifenbute); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 121451-02-3 (Noviflumuron); 122453-73-0 (Chlorfenapyr); 123997-26-2 (Eprinomectin); 129496-10-2; 129558-76-5 (Tolfenpyrad); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 139968-49-3 (Metaflumizone); 143807-66-3 (Chromafenozide); 145767-97-1 (Vaniliprole); 150824-47-8 (Nitenpyram); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 165252-70-0 (Dinotefuran); 168316-95-8 (Spinosad); 170015-32-4 (Flufenerim); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 203313-25-1 (Spirotetramat); 209861-58-5 (Acetoprole); 210880-92-5 (Clothianidin); 220119-17-5 (Selamectin); 223419-20-3 (Profluthrin); 240494-70-6 (Metofluthrin); 271241-14-6 (Dimefluthrin); 272451-65-7 (Flubendiamide); 283594-90-1 (Spiromesifen); 315208-17-4 (Pyrafluprole); 394730-71-3 (Pyriprole); 849939-72-6; 863549-51-3 (Lepimectin) Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (nonflammable insecticidal foams for treating parasite infestations)
Patent Application Country: Application: US
Priority Application Country: IL
Priority Application Number: 2002-152486
Priority Application Date: 20021025 Safe and effective foamable compns. for treating a subject infested with a parasitic arthropod or for preventing infestation include a first insecticide; >=1 org. carrier selected from a hydrophobic carrier, a polar solvent, an emollient and mixts. thereof at 2-50% by wt.; .apprx.0.1-5% by wt. of a surface-active agent; .apprx.0.01-5% by wt. of >=1 polymeric agent selected from a bioadhesive agent, a gelling agent, a film-forming agent and a phase change agent; and a liquefied or compressed gas propellant at .apprx.3-25% by wt. of the total compn. The org. carrier may comprise a second insecticide and(or) a potent solvent. Thus, a foamable insecticide compn. contg. permethrin (1 %), star anise oil (2.00% wt./wt. as second insecticide) and diisopropyl adipate and di-Me isosorbide as potent solvents was safe and effective in the treatment of head lice (Pediculosis capitis) in pediatric patients. [on SciFinder (R)] foam/ insecticide/ ectoparasiticide/ louse

1272. Tanabe, Akiko, Mitobe, Hideko, Kawata, Kuniaki, Sakai, Masaaki, and Yasuhara, Akio (2000). New monitoring system for ninety pesticides and related compounds in river water by solid-phase extraction with determination by gas chromatography/mass spectrometry. *Journal of AOAC International* 83: 61-77.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2000:99561
Chemical Abstracts Number: CAN 132:112643
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (simultaneous detn. of pesticide and degrdn. products in river water by gas chromatog.-mass spectrometry following pre-concn. via solid-phase extn.); Extraction (solid-phase; simultaneous detn. of pesticide and degrdn. products in river water by gas chromatog.-mass spectrometry following pre-concn. via solid-phase extn.)
CAS Registry Numbers: 67-56-1 (Methanol); 67-64-1 (Acetone); 141-78-6 (Ethyl acetate) Role: ARG (Analytical reagent use), NUU (Other use, unclassified), ANST (Analytical study), USES (Uses) (desorbant; simultaneous detn. of pesticide and degrdn. products in river water by gas chromatog.-mass spectrometry following pre-concn. via solid-phase extn.); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (river water; simultaneous detn. of pesticide and degrdn. products in river water by gas chromatog.-mass spectrometry following pre-concn. via solid-phase extn.); 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 82-68-8 (Quintozene); 87-41-2 (Phthalide); 97-17-6 (Dichlofenthion); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 133-06-2 (Captan); 330-55-2 (Linuron); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 624-38-4 (1,4-Diiodobenzene); 640-15-3 (Thiometon); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 834-12-8 (Ametryn); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 962-58-3 (Diazinon oxon); 1014-70-6 (Simetryn); 1129-41-5 (Metolcarb); 1194-65-6 (Dichlobenil); 1564-64-3 (9-Bromoanthracene); 1582-09-8 (Trifluralin); 1836-77-7 (Chlornitrofen); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-11-2 (Terbucarb); 2008-58-4 (2,6-Dichlorobenzamide); 2012-00-2 (EPN oxon); 2104-64-5 (EPN); 2212-67-1 (Molinate); 2255-17-6 (Fenitrothion oxon); 2310-17-0 (Phosalone); 2593-15-9 (Etridiazole); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2655-14-3 (XMC); 2675-77-6 (Chloroneb); 2698-38-6 (MCPA-ethyl); 2797-51-5 (ACN); 2921-88-2 (Chlorpyrifos); 3766-81-2 (Fenobucarb); 3811-49-2 (Dioxabenzofos); 5598-15-2 (Chlorpyrifos oxon); 7287-19-6 (Prometryn); 15299-99-7 (Napropamide); 15972-60-8 (Alachlor); 17109-49-8 (Edifenphos); 18854-01-8 (Isoxathion); 19666-30-9 (Oxadiazon); 22248-79-9 (Tetrachlorvinphos); 22936-75-0 (Dimethametryn); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 23950-58-5 (Propyzamide); 24151-93-7 (Piperophos); 25311-71-1 (Isofenphos); 25319-90-8 (MCPA-thioethyl); 26087-47-8 (Iprobenfos); 27605-76-1 (Probenazole); 28249-77-6 (Thiobencarb); 31120-85-1 (Isofenphos oxon); 32306-29-9 (Isoxathion oxon); 32809-16-8 (Procymidone); 32861-85-1 (Chlomethoxyfen); 36335-67-8 (Butamifos); 36734-19-7 (Iprodione); 40487-42-1 (Pendimethalin); 41814-78-2 (Tricyclazole); 42576-02-3 (Bifenox); 42609-73-4 (Methyldymron); 50512-35-1 (Isoprothiolane); 51218-45-2 (Metolachlor); 51218-49-6 (Pretilachlor); 52570-16-8 (Naproanilide); 55814-41-0 (Mepronil); 56362-05-1 (Butamifos oxon); 57018-04-9 (Tolclofos-methyl); 60168-88-9 (Fenarimol); 61432-55-1 (Dimepiperate); 66063-05-6 (Pencycuron); 66332-96-5 (Flutolanil); 69327-76-0 (Buprofezin); 71561-11-0 (Pyrazoxyfen); 73250-68-7 (Mefenacet); 74712-19-9 (Bromobutide); 75463-73-9 (Bromobutide-debromo); 80844-07-1 (Etofenprox); 85785-20-2 (Esprocarb); 88678-67-5 (Pyributicarb); 96491-05-3 (Thenylchlor); 97483-08-4 (Tolclofos-methyl oxon); 97886-45-8 (Dithiopyr) Role: ANT (Analyte), ANST (Analytical study) (simultaneous detn. of pesticide and degrdn. products in river water by gas chromatog.-mass spectrometry following pre-concn. via solid-phase extn.)
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Citations: 33) Garcia, M; J AOAC Int 1997, 80, 633
Citations: 34) Tanaka, H; Proceedings of the 31st Annual Meeting of Japan Society on Water Environment 1997, 497 A monitoring system was developed to det. 90 pesticides and 10 pesticide degrdn. products in river water. Pesticides (18 fungicides, 30 insecticides, 42 herbicides) were extd. with a solid-phase, styrene-divinylbenzene copolymer; eluted with acetone, hexane, and Et acetate; and detd. by gas chromatog.-mass spectrometry. Overall recovery was 72-118%. Limits of detection were 0.01-0.1 mg/L. This system detd. most pesticides used in Japan and was successfully used for practical monitoring of water polluted by pesticides and related compds. [on SciFinder (R)] 1060-3271 pesticide/ detn/ river/ water;/ gas/ chromatog/ mass/ spectrometry/ pesticide/ detn/ water;/ solid/ phase/ extn/ preconcn/ pesticide/ detn/ water

1273. Tanabe, Masato, Dehn, Robert L., and Bramhall, Ray R (1974). Photochemistry of imidan in diethyl ether. *Journal of Agricultural and Food Chemistry* 22 : 54-6.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1974:76603
Chemical Abstracts Number: CAN 80:76603
Section Code: 74-1
Section Title: Radiation Chemistry, Photochemistry, and Photographic Processes
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Photolysis (of imidan, in ethyl ether, phthalimides formation in)
CAS Registry Numbers: 550-44-7P; 1954-06-9P Role: FORM (Formation, nonpreparative), PREP (Preparation) (formation of, from photolysis of imidan in ethyl ether); 732-11-6 Role: RCT (Reactant), RACT (Reactant or reagent) (photolysis of, in ethyl ether, phthalimides formation in)
The photolysis of imidan, O,O-di-Me S-phthalimidomethyl phosphorodithioate, in Et2O produced

2 isolable products in low yield, N-methylphthalimide and N-methoxy-methylphthalimide. [on SciFinder (R)] 0021-8561 imidan/ photolysis;/ methyl/ phthalimidomethyl/ phosphorodithioate/ photolysis

1274. Tanaka, Tomoki, Tamba, Yukihiro, Masum, Shah Md., Yamashita, Yuko, and Yamazaki, Masahito (2002). La3+ and Gd3+ induce shape change of giant unilamellar vesicles of phosphatidylcholine. *Biochimica et Biophysica Acta (BBA) - Biomembranes* 1564: 173-182.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Lanthanides such as La3+ and Gd3+ are well known to have large effects on the function of membrane proteins such as mechanosensitive ionic channels and voltage-gated sodium channels, and also on the structure of phospholipid membranes. In this report, we have investigated effects of La3+ and Gd3+ on the shape of giant unilamellar vesicle (GUV) of dioleoylphosphatidylcholine (DOPC-GUV) and GUV of DOPC/cholesterol by the phase-contrast microscopy. The addition of 10-100 [mu]M La3+ (or Gd3+) through a 10-[mu]m diameter micropipette near the DOPC-GUV (or DOPC/cholesterol-GUV) triggered several kinds of shape changes. We have found that a very low concentration (10 [mu]M) of La3+ (or Gd3+) induced a shape change of GUV such as the discocyte via stomatocyte to inside budded shape transformation, the two-spheres connected by a neck to prolate transformation, and the pearl on a string to cylinder (or tube) transformation. To understand the effect of these lanthanides on the shape of the GUV, we have also investigated phase transitions of 30 [mu]M dipalmitoylphosphatidylcholine-multilamellar vesicle (DPPC-MLV) by the ultra-sensitive differential scanning calorimetry (DSC). The chain-melting phase transition temperature and the L[beta]' to P[beta]' phase transition temperature of DPPC-MLV increased with an increase in La3+ concentration. This result indicates that the lateral compression pressure of the membrane increases with an increase in La3+ concentration. Thereby, the interaction of La3+ (or Gd3+) on the external monolayer membrane of the GUV induces a decrease in its area (Aex), whereas the area of the internal monolayer membrane (Ain) keeps constant. Therefore, the shape changes of the GUV induced by these lanthanides can be explained reasonably by the decrease in the area difference between two monolayers ([Delta]A=Aex-Ain). Lanthanum ion/ Gadolinium ion/ Giant unilamellar vesicle/ Shape of vesicle/ Bilayer-couple model/ Lateral compression pressure http://www.sciencedirect.com/science/article/B6T1T-45PV13P-1/2/44ca50947506a9cff558a8f21edaebb4

1275. Tao, Shu, Piao, Haishan, Dawson, R., Lu, Xiaoxia, and Hu, Haiying (1999). Estimation of Organic Carbon Normalized Sorption Coefficient (KOC) for Soils Using the Fragment Constant Method. *Environmental Science and Technology* 33: 2719-2725.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1999:410761
Chemical Abstracts Number: CAN 131:218822
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 19, 60
Document Type: Journal
Language: written in English.
Index Terms: Simulation and Modeling; Soil pollution; Sorption; Water pollution (estn. of org. carbon normalized sorption coeff. for soils using fragment const. method); Organic compounds Role: POL (Pollutant), PRP (Properties), OCCU (Occurrence) (estn. of org. carbon normalized sorption coeff. for soils using fragment const. method)
CAS Registry Numbers: 445-66-9; 53115-46-1; 78508-43-7 Role: POL (Pollutant), OCCU (Occurrence) (estn. of org. carbon normalized sorption coeff. for soils using fragment const. method); 50-00-0 (Formaldehyde); 50-29-3; 50-32-8 (Benzo[a]pyrene); 51-66-1 (4-Methoxyacetanilide); 52-68-6 (Trichlorfon); 53-70-3 (Dibenz[a,h]anthracene); 55-21-0

(Benzamide); 55-38-9 (Fenthion); 56-23-5; 56-38-2 (O,O-Diethyl-O-p-nitrophenyl phosphorothioate); 56-49-5 (3-Methylcholanthrene); 56-55-3 (Benz[a]anthracene); 57-13-6 (Urea); 57-55-6 (1,2-Propanediol); 57-97-6; 58-89-9 (Lindane); 58-90-2 (2,3,4,6-Tetrachlorophenol); 60-51-5 (O,O-Dimethyl S-(N-methylcarbamoylmethyl)phosphorodithioate); 60-57-1 (Dieldrin); 61-82-5 (1H-1,2,4-Triazol-3-amine); 62-23-7 (4-Nitrobenzoic acid); 62-53-3 (Benzenamine); 62-73-7 (2,2-Dichlorovinyl dimethyl phosphate); 63-25-2 (Carbaryl); 63-99-0 (3-Methylphenylurea); 64-10-8 (Phenylurea); 64-17-5 (Ethanol); 64-19-7 (Acetic acid); 65-85-0 (Benzoic acid); 67-56-1 (Methanol); 67-66-3 (Trichloromethane); 67-72-1 (Hexachloroethane); 71-23-8 (1-Propanol); 71-36-3 (1-Butanol); 71-41-0 (1-Pentanol); 71-43-2 (Benzene); 71-55-6 (1,1,1-Trichloroethane); 72-54-8; 72-55-9; 75-09-2; 75-21-8 (Oxirane); 75-25-2 (Tribromomethane); 75-27-4 (Bromodichloromethane); 75-34-3 (1,1-Dichloroethane); 75-35-4 (1,1-Dichloroethylene); 75-50-3 (Trimethylamine); 75-69-4 (Trichlorofluoromethane); 75-99-0 (2,2-Dichloropropionic acid); 76-44-8; 77-47-4 (Hexachlorocyclopentadiene); 78-75-1 (1,2-Dibromopropane); 78-87-5 (1,2-Dichloropropane); 79-00-5 (1,1,2-Trichloroethane); 79-01-6 (Trichloroethylene); 79-34-5 (1,1,2,2-Tetrachloroethane); 82-68-8 (Pentachloronitrobenzene); 83-32-9 (Acenaphthene); 84-66-2 (Diethyl phthalate); 84-74-2 (Dibutyl phthalate); 85-01-8 (Phenanthrene); 85-02-9 (Benzo[f]quinoline); 85-34-7 (Fenac); 85-68-7 (Butyl-benzyl phthalate); 86-50-0 (Azinphos-methyl); 86-73-7 (Fluorene); 86-74-8 (9H-Carbazole); 86-87-3 (1-Naphthylacetic acid); 87-86-5 (Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 88-75-5; 88-85-7 (2-sec-Butyl-4,6-dinitrophenol); 88-99-3 (Phthalic acid); 90-05-1 (o-Methoxyphenol); 90-12-0 (1-Methylnaphthalene); 90-15-3 (1-Naphthol); 91-16-7 (1,2-Dimethoxybenzene); 91-20-3 (Naphthalene); 91-22-5 (Quinoline); 91-57-6 (2-Methylnaphthalene); 91-66-7 (N,N-Diethylaniline); 91-94-1 (3,3'-Dichlorobenzidine); 92-24-0 (Tetracene); 92-52-4 (Biphenyl); 92-82-0 (Phenazine); 92-87-5 (Benzidine); 92-91-1 (4-Acetylbiphenyl); 93-08-3; 93-58-3 (Methyl benzoate); 93-72-1 (2-(2,4,5-Trichlorophenoxy)propionic acid); 93-76-5 (2,4,5-Trichlorophenoxyacetic acid); 93-89-0 (Ethyl benzoate); 93-99-2 (Phenyl benzoate); 94-08-6 (Ethyl 4-methylbenzoate); 94-75-7 (2,4-Dichlorophenoxyacetic acid); 94-82-6 (2,4-DB); 95-14-7 (1H-Benzotriazole); 95-15-8 (Benzo[b]thiophene); 95-47-6 (1,2-Dimethylbenzene); 95-48-7; 95-49-8 (o-Chlorotoluene); 95-50-1 (1,2-Dichlorobenzene); 95-57-8 (o-Chlorophenol); 95-63-6 (1,2,4-Trimethylbenzene); 95-76-1 (3,4-Dichloroaniline); 95-77-2 (3,4-Dichlorophenol); 95-93-2 (1,2,4,5-Tetramethylbenzene); 95-94-3 (1,2,4,5-Tetrachlorobenzene); 95-95-4 (2,4,5-Trichlorophenol); 98-16-8 (3-Trifluoromethylaniline); 98-85-1 (sec-Phenethyl alcohol); 98-86-2 (Acetophenone); 98-95-3 (Nitrobenzene); 99-09-2 (3-Aminonitrobenzene); 99-30-9 (2,6-Dichloro-4-nitroaniline); 99-34-3 (3,5-Dinitrobenzoic acid); 99-35-4 (1,3,5-Trinitrobenzene); 99-54-7 (3,4-Dichloronitrobenzene); 99-77-4 (Ethyl 4-nitrobenzoate); 99-94-5 (4-Methylbenzoic acid); 99-96-7 (4-Hydroxybenzoic acid); 100-01-6; 100-02-7 (p-Nitrophenol); 100-41-4 (Ethylbenzene); 100-42-5; 100-51-6 (Benzyl alcohol); 100-61-8 (N-Methylaniline); 100-66-3 (Anisole); 101-05-3; 101-21-3 (Isopropyl N-(3-chlorophenyl)carbamate); 101-42-8 (1,1-Dimethyl-3-phenylurea); 101-84-8 (Diphenyl ether); 101-97-3 (Ethylphenylacetate); 101-99-5 (Ethyl N-phenylcarbamate); 102-25-0 (1,3,5-Triethylbenzene); 103-33-3 (Diphenyl diimide); 103-65-1 (Propylbenzene); 103-82-2 (Phenylacetic acid); 103-84-4 (Acetanilide); 103-88-8 (p-Bromoacetanilide); 104-51-8 (Butylbenzene); 106-30-9 (Ethyl heptanoate); 106-32-1 (Ethyl octanoate); 106-40-1 (4-Bromoaniline); 106-41-2 (4-Bromophenol); 106-42-3 (1,4-Dimethylbenzene); 106-44-5; 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-48-9 (p-Chlorophenol); 106-49-0 (4-Methylaniline); 106-93-4 (1,2-Dibromoethane); 107-02-8 (2-Propenal); 107-06-2; 108-38-3 (1,3-Dimethylbenzene); 108-39-4; 108-43-0; 108-44-1 (3-Methylaniline); 108-46-3 (1,3-Dihydroxybenzene); 108-67-8 (1,3,5-Trimethylbenzene); 108-68-9 (3,5-Dimethylphenol); 108-70-3 (1,3,5-Trichlorobenzene); 108-86-1 (Bromobenzene); 108-88-3 (Toluene); 108-90-7 (Chlorobenzene); 108-95-2 (Phenol); 109-73-9 (1-Butylamine); 111-27-3 (1-Hexanol); 111-44-4 (Bis(2-chloroethyl) ether); 111-70-6 (1-Heptanol); 111-87-5 (1-Octanol); 112-30-1 (1-Decanol); 112-53-8 (1-Dodecanol); 114-26-1 (Propoxur); 114-38-5 (2-Chlorophenylurea); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (2-Methyl-2-(methylthio)propionaldehyde O-(methylcarbamoyl)oxime); 117-18-0; 117-81-7 (Bis(2-ethylhexyl) phthalate); 118-74-1; 118-96-7 (2,4,6-Trinitrotoluene); 119-61-9 (Benzophenone); 119-91-5 (2,2'-Biquinoline); 120-12-7 (Anthracene); 120-36-5 (Dichlorprop); 120-47-8 (Ethyl 4-hydroxybenzoate); 120-80-9 (o-Dihydroxybenzene); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2

(2,4-Dichlorophenol); 121-69-7; 121-75-5 (Malathion); 121-81-3 (3,5-Dinitrobenzamide); 122-14-5 (Fenitrothion); 122-28-1; 122-34-9; 122-39-4 (Diphenylamine); 122-42-9 (Isopropyl carbanilate); 123-33-1 (Maleic hydrazide); 123-66-0 (Ethyl hexanoate); 124-40-3; 124-48-1 (Dibromochloromethane); 127-18-4 (Tetrachloroethylene); 129-00-0 (Pyrene); 131-11-3 (Dimethyl phthalate); 132-65-0 (Dibenzothiophene); 132-66-1 (Naptalam); 133-07-3 (N-(Trichloromethylthio)phthalimide); 133-90-4 (3-Amino-2,5-dichlorobenzoic acid); 134-32-7 (1-Naphthylamine); 136-60-7 (Butyl benzoate); 139-40-2 (2-Chloro-4,6-bis(isopropylamino)-s-triazine); 141-66-2 (Dicrotophos); 142-62-1 (Hexanoic acid); 143-08-8 (1-Nonanol); 148-79-8 (Thiabendazole); 150-13-0 (4-Aminobenzoic acid); 150-19-6; 150-68-5; 150-76-5 (p-Methoxyphenol); 156-60-5 (trans-1,2-Dichloroethylene); 191-24-2 (Benzo[ghi]perylene); 192-97-2 (Benzo[e]pyrene); 193-39-5 (Indeno(1,2,3-cd)pyrene); 194-59-2 (7H-Dibenzo(c,g)carbazole); 198-55-0 (Perylene); 205-99-2 (Benz[e]acephenanthrylene); 206-44-0 (Fluoranthene); 207-08-9 (Benzo[k]fluoranthene); 218-01-9 (Chrysene); 224-41-9 (Dibenz[a,j]anthracene); 238-84-6 (1,2-Benzofluorene); 239-64-5 (13H-Dibenzo(a,i)carbazole); 260-94-6 (Acridine); 298-00-0 (O,O-Dimethyl-O-p-nitrophenyl phosphorothioate); 298-02-2 (O,O-Diethyl S-[(ethylthio)methyl] phosphorodithioate); 298-04-4 (Disulfoton); 299-84-3; 300-76-5 (Naled); 301-12-2 (Oxydemeton methyl); 309-00-2; 314-40-9; 314-42-1; 330-54-1 (Diuron); 330-55-2 (3-(3,4-Dichlorophenyl)-1-methoxy-1-methylurea); 332-33-2; 333-41-5 (O,O-Diethyl O-(2-isopropyl-4-methyl-6-pyrimidinyl) phosphorothioate); 351-28-0; 351-36-0 (3-(Trifluoromethyl)acetanilide); 351-83-7 (4-Fluoroacetanilide); 470-90-6 (Chlorfenvinphos); 496-11-7 (Indane); 510-15-6 (Chlorobenzilate); 526-73-8 (1,2,3-Trimethylbenzene); 527-20-8 (Pentachloroaniline); 528-45-0 (3,4-Dinitrobenzoic acid); 533-17-5 (o-Chloroacetanilide); 537-92-8 (3-Methylacetanilide); 539-82-2 (Ethyl pentanoate); 540-49-8 (1,2-Dibromoethylene); 541-73-1 (1,3-Dichlorobenzene); 554-00-7 (2,4-Dichloroaniline); 554-84-7; 555-37-3; 576-24-9 (2,3-Dichlorophenol); 581-40-8 (2,3-Dimethylnaphthalene); 586-78-7 (4-Bromonitrobenzene); 587-34-8 (3-(3-Chlorophenyl)-1,1-dimethylurea); 588-07-8 (3-Chloroacetanilide); 594-65-0 (Trichloroacetamide); 598-50-5 (Methylurea); 608-31-1 (2,6-Dichloroaniline); 608-93-5 (Pentachlorobenzene); 609-19-8 (3,4,5-Trichlorophenol); 609-66-5 (2-Chlorobenzamide); 610-15-1 (2-Nitrobenzamide); 611-74-5 (N,N-Dimethylbenzamide); 613-13-8 (2-Aminoanthracene); 613-93-4; 618-71-3 (Ethyl 3,5-dinitrobenzoate); 618-87-1 (3,5-Dinitroaniline); 619-55-6 (4-Methylbenzamide); 619-80-7 (4-Nitrobenzamide); 621-38-5; 622-96-8 (p-Ethyltoluene); 626-43-7 (3,5-Dichloroaniline); 630-20-6 (1,1,1,2-Tetrachloroethane); 634-66-2 (1,2,3,4-Tetrachlorobenzene); 634-67-3 (2,3,4-Trichloroaniline); 634-83-3 (2,3,4,5-Tetrachloroaniline); 634-90-2 (1,2,3,5-Tetrachlorobenzene); 645-09-0 (3-Nitrobenzamide); 651-85-4 (Methyl pentafluorophenyl sulfone); 656-31-5 (2-Fluorophenylurea); 659-30-3 (4-Fluorophenylurea); 685-91-6; 697-82-5 (2,3,5-Trimethylphenol); 709-98-8 (Propanil); 723-62-6 (Anthracene-9-carboxylic acid); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 759-94-4 (S-Ethyl dipropylthiocarbamate); 770-19-4 (Urea, (3-fluorophenyl)-); 779-02-2 (9-Methylanthracene); 784-04-3 (9-Acetylanthracene); 786-19-6; 827-52-1 (Phenylcyclohexane); 834-12-8 (2-(Ethylamino)-4-(isopropylamino)-6-(methylthio)-s-triazine); 879-39-0; 886-50-0; 886-59-9 (1-Cyclohexyl-3-phenylurea); 939-27-5 (2-Ethylnaphthalene); 944-22-9 (Dyfonate); 944-61-6 (Benzene, 1,2,3,4-tetrachloro-5,6-dimethoxy-); 950-37-8 (Methidathion); 957-51-7 (N,N-Dimethyl diphenyl acetamide); 1007-36-9 (1-Methyl-3-phenylurea); 1114-71-2 (S-Propyl butylethylthiocarbamate); 1127-76-0 (1-Ethylnaphthalene); 1129-50-6 (Butyranilide); 1194-65-6; 1198-55-6 (Tetrachlorocatechol); 1468-95-7 (9-Anthracenemethanol); 1470-94-6 (5-Indanol); 1538-74-5 (Butyl N-phenylcarbamate); 1563-66-2 (2,3-Dihydro-2,2-dimethyl-7-benzofuranyl methylcarbamate); 1582-09-8 (a,a,a-Trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine); 1610-18-0 (2,4-Bis(isopropylamino)-6-methoxy-s-triazine); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldoxycarb); 1689-84-5; 1698-60-8; 1702-17-6 (3,6-Dichloropicolinic acid); 1746-81-2; 1754-58-1; 1836-75-5 (Nitrofen); 1836-77-7 (Chlornitrofen); 1861-32-1 (Chlorthal methyl); 1861-40-1 (N-Butyl-N-ethyl-a,a,a-trifluoro-2,6-dinitro-p-toluidine); 1897-45-6 (Chlorothalonil); 1912-24-9 (2-Chloro-4-ethylamino-6-isopropylamino-1,3,5-triazine); 1912-25-0; 1918-00-9 (3,6-Dichloro-2-methoxybenzoic acid); 1918-02-1 (4-Amino-3,5,6-trichloropicolinic acid); 1918-16-7 (2-Chloro-N-isopropylacetanilide); 1918-18-9 (Methyl N-(3,4-dichlorophenyl)carbamate); 1929-77-7 (Vernolate); 1929-82-4 (2-Chloro-6-(trichloromethyl)pyridine); 1967-16-4 (Chlorbufam); 1967-25-5 (4-Bromophenylurea); 1967-27-7 (3-Chlorophenylurea); 1982-47-4 (3-[p-(p-Chlorophenoxy)phenyl]-1,1-dimethylurea); 1982-49-6

(Siduron); 2008-39-1 (2,4-D Amine); 2008-41-5 (S-Ethyl diisobutylthiocarbamate); 2008-58-4 (2,6-Dichlorobenzamide); 2032-65-7 (3,5-Dimethyl-4-(methylthio)phenyl methylcarbamate); 2050-68-2 (4,4'-Dichlorobiphenyl); 2051-60-7 (2-Chlorobiphenyl); 2051-61-8 (3=Chlorobiphenyl); 2077-99-8; 2104-64-5 (EPN); 2136-79-0 (2,3,5,6-Tetrachloroterephthalic acid); 2150-88-1 (Methyl N-(3-chlorophenyl)carbamate); 2150-93-8; 2163-68-0 (Hydroxyatrazine); 2164-17-2; 2212-67-1 (Molinate); 2303-17-5 (S-(2,3,3-Trichloroallyl) diisopropylthiocarbamate); 2310-17-0 (Phosalone); 2327-02-8; 2425-10-7 (3,4-Xylyl methyl carbamate); 2539-17-5 (Tetrachloroguaiacol); 2603-10-3 (Methyl N-phenylcarbamate); 2642-98-0 (6-Aminochrysene); 2668-24-8 (4,5,6-Trichloroguaiacol); 2675-77-6 (1,4-Dichloro-2,5-dimethoxybenzene); 2921-88-2; 2939-79-9; 2971-90-6 (Clopidol); 2989-98-2 (3-Bromophenylurea); 3004-71-5; 3060-89-7 (3-(p-Bromophenyl)-1-methoxy-1-methylurea); 3070-15-3 (Fensulfothion sulfide); 3244-90-4 (Tetra-n-propyl dithiopyrophosphate); 3337-71-1 (Methyl (4-aminophenyl)sulfonylcarbamate); 3383-96-8 (Temephos); 3401-80-7 (3,6-Dichlorosalicylic acid); 3478-94-2 (Piperalin); 3481-20-7 (2,3,5.6-Tetrachloroaniline); 3567-62-2; 3597-91-9 (4-Biphenylmethanol); 3689-24-5 (Sulfotepp); 3766-81-2 (2-sec-Butyl phenyl methyl carbamate); 4147-51-7; 4684-94-0 (6-Chloropicolinic acid); 4685-14-7 (1,1'-Dimethyl-4,4'-bipyridinium); 4726-14-1; 4780-79-4 (1-Naphthalenemethanol); 5221-53-4; 5234-68-4 (Carboxin); 5259-88-1 (Oxycarboxin); 5345-54-0 (3-Chloro-4-methoxyaniline); 5532-90-1 (Propyl N-phenylcarbamate); 5598-13-0; 5902-51-2 (3-tert-Butyl-5-chloro-6-methyluracil); 5915-41-3 (Terbuthylazine); 6164-98-3; 6515-38-4 (3,5,6-Trichloro-2-pyridinol); 6933-10-4 (4-Bromo-3-methylaniline); 7012-37-5 (2,4,4'-Trichlorobiphenyl); 7073-42-9; 7159-34-4 (Pyroxychlor); 7160-01-2; 7160-02-3; 7287-19-6 (2,4-Bis(isopropylamino)-6-(methylthio)-s-triazine); 7786-34-7; 8001-35-2 (Toxaphene); 10061-02-6 (trans-1,3-Dichloropropene); 10265-92-6 (Methamidophos); 10548-10-4 (Terbufos sulfoxide); 10605-21-7 (Methyl benzimidazol-2-ylcarbamate); 12771-68-5 (Ancymidol); 12789-03-6 (Chlordane); 13029-08-8 (2,2'-Dichlorobiphenyl); 13114-87-9 (3-(Trifluoromethyl)phenylurea); 13140-86-8 (Urea, 1-Cyclopropyl-3-phenyl-); 13140-89-1 (1-Cyclopentyl-3-phenylurea); 13171-21-6 (Phosphamidon); 13194-48-4 (O-Ethyl S,S-dipropyl phosphorodithioate); 13280-67-6; 13360-45-7; 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14255-72-2 (Fensulfothion sulfone); 14599-59-8; 15122-35-7; 15299-99-7 (2-(a-Naphthoxy)-N,N-diethylpropionamide); 15545-48-9; 15968-05-5 (2,6,2',6'-Tetrachlorobiphenyl); 15972-60-8 (2-Chloro-2',6'-diethyl-N-(methoxymethyl)acetanilide); 16752-77-5 (Methomyl); 16766-29-3 (3,4,5-Trichloroveratrole); 17209-10-8; 17804-35-2 (Methyl 1-(butylcarbamoyl)benzimidazol-2-ylcarbamate); 18315-62-3; 18691-97-9 (1-(Benzothiazol-2-yl)-1,3-dimethylurea); 19044-88-3 (Oryzalin); 19095-79-5; 19937-59-8; 20354-26-1; 20782-57-4 (Urea, N-(3-Chloro-4-methoxyphenyl)-N'methyl-); 20940-42-5 (Urea, N-(3-Chlorophenyl)-N'-methyl-); 21087-64-9; 21609-90-5; 21725-46-2; 22175-22-0; 22224-92-6 (Fenamiphos); 22756-17-8; 22781-23-3; 23103-98-2 (Pirimicarb); 23184-66-9 (Butaclor); 23576-23-0; 23950-58-5; 24151-93-7 (Piperophos); 24814-30-0; 24911-15-7; 25154-54-5 (Dinitrobenzene); 25277-05-8; 25311-71-1 (Isofenphos); 26087-47-8 (S-Benzyl O,O-diisopropyl phosphorothioate); 26225-79-6 (Ethofumesate); 26259-45-0 (Secbumeton); 26399-36-0; 26644-46-2 (Triforine); 27314-13-2 (Norflurazon); 27799-90-2 (1H-Benzotriazole, 4-methoxy-); 28249-77-6 (Thiobencarb); 29091-05-2; 29123-73-7; 29232-93-7 (Pirimiphos-methyl); 29682-39-1; 29878-31-7 (4-Methylbenzotriazole); 30560-19-1; 31557-34-3 (2-Methoxy-3,5,6-Trichloropyridine); 31972-43-7 (Fenamiphos sulfoxide); 31972-44-8 (Fenamiphos sulfone); 33089-61-1 (Amitraz); 33222-69-4 (3-Methylphenylcarbamate); 33244-86-9 (Benzamide, N-(1,1-Dimethyl-2-propynyl)-); 33245-39-5; 33629-47-9; 33979-03-2 (2,2',4,4',6,6'-Hexachlorobiphenyl); 34123-59-6 (Isoproturon); 34256-82-1; 34883-43-7 (2,4'-Dichlorobiphenyl); 35065-27-1 (2,2',4,4',5,5'-Hexachlorobiphenyl); 35367-38-5; 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 35693-99-3 (2,5,2',5'-Tetrachlorobiphenyl); 36627-56-2; 36734-19-7 (Iprodione); 37547-27-6; 37680-65-2 (2,2',5-Trichlorobiphenyl); 37680-66-3 (2,2',4-Trichlorobiphenyl); 37680-73-2 (2,2',4,5,5'-Pentachlorobiphenyl); 38380-02-8 (2,2',3,4,5'-Pentachlorobiphenyl); 38380-07-3 (2,2',3,3',4,4'-Hexachlorobiphenyl); 38727-55-8 (Diethatyl-ethyl); 39108-81-1; 39108-91-3 (Benzamide, N-(1,1-dimethyl-2-propynyl)-4-methyl-); 39638-32-9 (Bis(2-chloroisopropyl) ether); 40487-42-1 (Pendimethalin); 41198-08-7 (Profenofos); 41394-05-2; 41814-78-2 (Tricyclazole); 42509-80-8 (Isazophos); 42576-02-3 (Methyl 5-(2,4-dichlorophenoxy)-2-nitrobenzoate); 42874-03-3 (Oxyfluorfen); 43121-43-3; 51218-45-2; 51338-27-3 (Dichlofop-methyl); 51630-58-1 (Fenvalerate); 51707-55-2

(Thidiazuron); 52030-36-1; 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52663-67-9; 52712-04-6 (2,2',3,4,5,5'-Hexachlorobiphenyl); 55215-17-3 (2,2',3,4,6-Pentachlorobiphenyl); 55283-68-6 (Ethalfluralin); 55335-06-3 (3,5,6-Trichloro-2-pyridyloxyacetic acid); 55861-78-4 (Isouron); 56070-14-5; 56070-16-7 (Terbufos sulfone); 56961-20-7 (3,4,5-Trichlorocatechol); 57837-19-1 (Metalaxyl); 59669-26-0 (Thiodicarb); 59756-60-4 (Fluridone); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 61213-25-0 (Flurochloridone); 61698-78-0; 63075-06-9 (Pentyl N-phenylcarbamate); 63082-07-5 (4-Methoxyphenyl carbamate); 64902-72-3 (Chlorsulfuron); 67129-08-2; 67130-04-5 (4-Chlorobenzotriazole); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 74222-97-2 (Sulfometuron methyl); 74223-64-6 (Metsulfuron-methyl); 74472-34-7 (2,3,4',5-Tetrachlorobiphenyl); 74472-49-4; 76578-14-8 (Quizalofop-ethyl); 76674-21-0 (Flutriafol); 76997-32-5; 78508-44-8 (4-Phenoxyphenylurea); 78508-45-9; 78508-46-0; 79277-27-3 (Thiameturon methyl); 80045-50-7; 80045-51-8; 80045-52-9; 82558-50-7 (Isoxaben); 99803-84-6 (4,5-Dichlorobenzotriazole); 100794-15-8; 105300-08-1; 113511-39-0; 243464-27-9; 243464-28-0; 243464-29-1; 243464-30-4; 243464-32-6; 243464-33-7; 243464-38-2; 243464-40-6 Role: POL (Pollutant), PRP (Properties), OCCU (Occurrence) (estn. of org. carbon normalized sorption coeff. for soils using fragment const. method); 330-39-2 Role: POL (Pollutant), PRP (Properties), OCCU (Occurrence) (s estn. of org. carbon normalized sorption coeff. for soils using fragment const. method)

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Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

We present the first three-dimensional reconstruction of a prolate, tailed phage, and its empty prohead precursor by cryo-electron microscopy. The head-tail connector, the central component of the DNA packaging machine, is visualized for the first time in situ within the Bacillus subtilis dsDNA phage [phi]29. The connector, with 12- or 13-fold symmetry, appears to fit loosely into a pentameric vertex of the head, a symmetry mismatch that may be required to rotate the connector to package DNA. The prolate head of [phi]29 has 10 hexameric units in its cylindrical equatorial region, and 11 pentameric and 20 hexameric units comprise icosahedral end-caps with T=3 quasi-symmetry. Reconstruction of an emptied phage particle shows that the connector and neck/tail assembly undergo significant conformational changes upon ejection of DNA.
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ABSTRACT: TD3: In December 1990, the Laboratory of Radiation Research (LSO) of the National Institute of Public Health and Environmental Protection (RIVM) set up an HVS sampling station at Bilthoven. This report is intended to describe the development of the HVS system, therefore the discussion of both equipment and analysis is emphasized. A general description of the HVS method is given in the first part of Chapter 2. In subsections, the methods of air-sampling, sample preparation and analysis are discussed. Detection limits, accuracy, and quality assurance are described in the last three sections of Chapter 2. The results of radionuclides measurements in air in 1991 and 1992 and those of additional investigations on the effect of sample pretreatment are included in Chapter 3. Chapter 4 rounds of the report with the conclusions. Detailed tables showing results over 1991 and 1992 are given in the Appendix. Errata sheet inserted. Summary in Dutch.
KEYWORDS: Air samplers
KEYWORDS: Air pollution detection
KEYWORDS: Radionuclide migration
KEYWORDS: Foreign technology

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Chem Codes : Chemical of Concern: PSM Rejection Code: NO SPECIES (DEAD).

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Database: CAPLUS
Accession Number: AN 2002:512483
Chemical Abstracts Number: CAN 137:124420
Section Code: 17-10
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Food contamination; Packaging process; Pesticides; Prunus persica (effect of postharvest handling on pesticide residues in peach peel)
CAS Registry Numbers: 56-38-2 (Parathion); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 121-75-5 (Malathion); 133-06-2 (Captan); 298-00-0 (Methyl parathion); 563-12-2 (Ethion); 732-11-6 (Phosmet); 1897-45-6 (Chlorothalonil); 2921-88-2 (Chlorpyrifos); 60207-90-1 (Propiconazole)
Role: BSU (Biological study, unclassified), BIOL (Biological study) (effect of postharvest handling on pesticide residues in peach peel)
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Citations: United States Environmental Protection Agency; Code of Federal Regulations Title 40 Part 180 Tolerances and exemptions from tolerances for pesticides Chemicals in food 1999 To discern how the packing process influences pesticide residue loads on peach (Prunus persica L. Batsch) fruit; postharvest, post hydrocooled, and post brushed fruit were assessed for levels of several pesticides. The packing house process reduced pesticide residue levels on fresh peaches to levels that were generally below detection limits of our assays in 1998. Carbaryl and captan residues from field packed fruit were 32.2* and 21.9*, resp., of that found in the peel of fruit processed in the packing house in 1998. Carbaryl levels were not reduced by hydrocooling but postharvest brushing reduced pesticide residues up to 94% in fruit peel. Across processing operations and cultivars assessed in 1999, hydrocooling, hydrocooling plus brushing, and brushing alone removed 37%, 62%, and 53%, resp., of the encapsulated methyl parathion residues from fruit peel. Hydrocooling had the greatest impact on phosmet removal from peel, reducing levels by 72.5 %. After hydrocooling, phosmet was, 5.7* following brushing in one-half of the subsequent samples. This increase occurred at all three farms, suggesting that periodic cleaning of brushes may be necessary to prevent later contamination of peach peel with pesticides. In the only example in which propiconazole residue remained on peaches at, picking, it was removed most effectively (69 %) by the brushing operation. Nearly 31 % of the propiconazole was removed in the hydrocooler. The packing process before shipment to retail outlets was generally effective in the removal of pesticides that may be present on peel at the time of harvest. Assessment of pesticide residue levels in peach flesh was uniformly below the levels of detection in our assays, suggesting that the classes of pesticide analyzed in peaches were not transepidermal. [on SciFinder (R)] 0018-5345 peach/ pesticide/ residue/ postharvest/ packaging

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Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0034-6667
Descriptors: Pollen
Descriptors: Proustia
Descriptors: Lophopappus
Descriptors: Mutisieae
Descriptors: Asteraceae
Abstract: Pollen of Proustia (10 specimens examined) and Lophopappus (12 specimens examined) (Asteraceae, Mutisieae) are described as part of an analysis of the classification of these genera. Their exine structure is determined and compared with structures found in other genera of Mutisieae (25 specimens examined and data of other authors), in order to clarify the subtribal position of Proustia and Lophopappus. Pollen of Proustia and Lophopappus have the following characters in common: Grains radially symmetrical and isopolar; tricolporate, long colpi with a microgranulate membrane, endoaperture lalongate with acute or bifurcate equatorial ends; subprolate or prolate-spheroidal; elliptic or spheroidal; polar caps conspicuous or not so distinctive, and exine microechinate. Two types of sexine structure are observed: (1) Trixis type, with two columellate ramified sublayers, the inner sublayer thicker than the outer one (found in Lophopappus berberidifolius, L. tarapacanus, Proustia cuneifolia var. cuneifolia, P. cuneifolia var. mendocina, P. cuneifolia var. mollis, P. ilicifolia var. baccharoides, and P. pyrifolia); and (2) Proustia type, with two equally thick sublayers of ramified columella (found in Lophopappus blakei, L. cuneatus, and L. foliosus). Proustia ilicifolia var. ilicifolia and Lophopappus peruvianus have both types of sexine structure. Pollen analysis of other genera of Mutisieae subtribes Nassauviinae, Mutisiinae and Gochnatiinae demonstrate two new exine types: (1) Ainsliaea type, with two sublayers poorly distinguishable, the exine appearing compact, the outer surface microechinate; and (2) Wunderlichia type, with two well-differentiated sublayers, the outer surface echinate, the spines with apical channels. The results show that: (1) Proustia and Lophopappus cannot be differentiated from each other by pollen characters; (2) the genera of subtribe Nassauviinae can be differentiated from the other two subtribes by having sexine sublayers with similar structure; (3) Proustia and Lophopappus have the pollen exine structural types that are typical of pollen of subtribe Nassauviinae; (4) subtribes Gochnatiinae and Mutisiinae are characterized by having sexine sublayers with different structures; but (5) those two subtribes cannot be differentiated based on pollen characters. (copyright) 2003 Elsevier Science B.V. All rights reserved.
23 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.14.1.7 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Evolution
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1997:108686
Chemical Abstracts Number: CAN 126:247792
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Gas chromatography; Pesticides (recovery of pesticide residues in presence of polyethylene glycol keeper at different storage temp. and time in gas chromatog. anal.)
CAS Registry Numbers: 50-29-3; 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 80-33-1 (Chlorfenson); 86-50-0 (Azinphos-methyl); 101-21-3 (Chlorpropham); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 117-18-0 (Tecnazene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-42-9 (Propham); 133-06-2 (Captan); 133-07-3 (Folpet); 297-97-2 (Thionazin); 298-00-0 (Parathion-methyl); 299-84-3 (Fenchlorphos); 319-84-6 (a-HCH); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinfos); 485-31-4 (Binapacryl); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 950-10-7 (Mephosfolan); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 2104-96-3 (Bromophos); 2310-17-0 (Phosalone); 2595-54-2 (Mecarbam); 2631-37-0 (Promecarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 5131-24-8 (Ditalimfos); 7786-34-7 (Mevinphos); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 18181-80-1 (Bromopropylate); 19937-59-8 (Metoxuron); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos-methyl); 32809-16-8 (Procymidone); 34643-46-4 (Prothiophos); 41198-08-7 (Profenofos); 41394-05-2 (Metamitron); 51235-04-2; 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53014-40-7 (Tetrachloroaniline); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz) Role: ANT (Analyte), ANST (Analytical study) (recovery of pesticide residues in presence of polyethylene glycol keeper at different storage temp. and time in gas chromatog. anal.); 25322-68-3 (Polyethylene glycol) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (recovery of pesticide residues in presence of polyethylene glycol keeper at different storage temp. and time in gas chromatog. anal.)
Citations: Akerblom, M; World directory of pesticide control organisations, 3rd edition 1996, 19
Citations: Albro, P; J Chromatog 1984, 312, 165
Citations: Andersson, A; Var Foda 1986, 38(Suppl 2), 79
Citations: Baumgarten, D; GIT Fachz Lab 1989, 9, 815
Citations: Kylin, H; Environ Sci Technol 1994, 28, 1320
Citations: Thornburg, W; Analytical methods for pesticides and plant growth regulators 1963, 1, 87 Polyethylene glycol was used as keeper at harsh conditions in the anal. of pesticide residues to reduce the loss of compds. on evapn. and on transport conditions. Sixty-four pesticides were analyzed and their recovery with keeper at different storage temp. and time was detd. [on SciFinder (R)] 0007-4861 pesticide/ residue/ detn/ storage/ transport

1282. Tereshchenko, P. V. (1996). Effect of Insecticides on Earthworms. *Agrokhimiya* 0: 101-105.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The contact effects of DDT, heptachlor, phthalophos, permethrin, cypermethrin, alphamethrin and fenvalerate on sexually mature earthworms Eisenia foetida were studied under laboratory conditions. Contact with a glass surface treated with acetone solutions of the insecticides was used. It was found that earthworms were highly sensitive to the contact effects of the insecticides.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL

MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANNELIDA
MESH HEADINGS: OLIGOCHAETA
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Invertebrata
KEYWORDS: Oligochaeta
LANGUAGE: rus

1283. Thakur, S. N. and Upadhya, K. N. (1969). A high resolution investigation of the near ultraviolet absorption spectrum of p-fluorochlorobenzene. *Journal of Molecular Structure* 4: 459-467.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The intense b ands in the near ultraviolet absorption spectrum of p-fluoro-chlorobenzene show regular rotational features under high resolution. Band contour analysis confirms the electronic transition to be 1B2 <-- 1A1. The rotational lines have been interpreted by a prolate symmetric rotor model for the molecule. The observed rotational constants indicate that the size of the phenyl ring increases on electronic excitation. http://www.sciencedirect.com/science/article/B6TGS-44BMVKR-1F/2/f4d0e53f26fc2dc519cb0db6374145c3

1284. Thevathasan, N. V., Gordon, A. M., Simpson, J. A., Reynolds, P. E., Price, G., and Zhang, P. (2004). Biophysical and Ecological Interactions in a Temperate Tree-Based Intercropping System. *Journal of Crop Improvement, 12 (1-2) pp. 339-363, 2004.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY, FATE.

ISSN: 1542-7528
Descriptors: Agroforestry
Descriptors: Sustainable agriculture
Descriptors: Carbon sequestration
Descriptors: Biodiversity
Descriptors: Agroecosystem
Descriptors: Biophysical interactions
Abstract: Tree-based intercropping is considered an excellent farming system and can contribute much to our understanding of sustainable agriculture practices. Our current research goals are to address and quantify the numerous biophysical interactions that occur at the tree-crop interface in order to enhance our understanding of the ecology of tree-based intercropping (a form of agroforestry). In 1987, the University of Guelph established a large field experiment on 30 ha of prime agricultural land in Wellington county southern Ontario, Canada to investigate various aspects of intercropping trees with agricultural crops. A variety of spacing, crop compatibility and tree growth, and survival experiments were initiated at that time, utilizing 10 tree species within the genera Picea, Thuja, Pinus, Juglans, Quercus, Fraxinus, Acer, and Populus. Two between row-spacings (12.5 m or 15 m) and two within row-spacings (3 m, or 6 m) were utilized in conjunction with all possible combinations of three agricultural crops (soybean, corn, and either winter wheat or barley). Investigations over the last decade have documented several complementary biophysical interactions. Nitrogen (N) transfer from fall-shed leaves to adjacent crops with enhanced soil nitrification as the proposed mechanism was estimated to be 5 kg N ha⁻¹. Soil organic carbon (C) adjacent to tree rows has increased by over 1%, largely as a result of tree litterfall inputs and fine root turnover. It is estimated that intercropping has reduced nitrate loading to adjacent waterways by 50%, a hypothesized function of deep percolate interception by tree roots. We have also noticed increased bird diversity and usage within the intercropped area as compared to mono-cropped adjacent agricultural areas, and have recorded increases in small mammal populations. Earthworm distribution and abundance was also found to be higher closer to the tree rows when compared to earthworm numbers in the crop alleys. We speculate that these are indicative of major changes in the flow of energy within the trophic structure identified with intercropping systems. In light of climate change mitigation processes, C

sequestration and NO<inf>2</inf> reduction potentials in tree-based intercropping systems were studied and compared to conventional agricultural systems. The results suggest that sequestration of C was 5 times more in the former system than in the latter. Competitive interactions between trees and crops for nutrients, moisture and light were also studied. The tangible benefits that are derived from properly designed and managed tree-based intercropping systems place this land management option above conventional agriculture in terms of long-term productivity and sustainability. (copyright) 2004 by The Haworth Press, Inc. All rights reserved.
55 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.10.3.2 CROP SCIENCE: Tree Growth and Forest Management: Agroforestry
Subfile: Plant Science

1285. Thomas, Frederick John D. and Taylor, Alan Stokoe (19710222). Apparatus and compositions for controlling cattle ticks. 27 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1972:21965
Chemical Abstracts Number: CAN 76:21965
Section Code: 5
Section Title: Agrochemicals
Coden: SFXXAB
Index Terms: Kaolin Role: BIOL (Biological study) (as stabilizers, for cattle tick controlling compns.); Boophilus microplus (control of, app. and stabilized compns. for)
CAS Registry Numbers: 75-43-4 Role: BIOL (Biological study) (as propellents, for cattle tick controlling compns.); 6164-98-3 Role: BIOL (Biological study) (for Boophilus annulatus microplus contro, app. and propellents and stabilizers for); 732-11-6 Role: BIOL (Biological study) (for Boophilus annulatus microplus control, app. and propellents and stabilizers for)
Priority Application Country: AU
Priority Application Date: 19680909 An app. was designed for spraying tick-infested cattle with a finely divided dust contg. a tickicidal compn. composed of an active org. compd. which is unstable in aq. media and an inert solid carrier. O,O-dimethyl-S-phthalimidomethyl phosphorodithioate [732-11-6] and N-(2-methyl-4-chlorophenyl)-N',N'-dimethylformamidine [6164-98-3] were more effective against all stages of a resistant strain of cattle tick (Boophilus microplus [Boophilus annulatus microplus]) using this app. than were com. aq. sprays contg. carbaryl [63-25-2], ethion [563-12-2], or trithion [786-19-6]. [on SciFinder (R)] tick/ control/ cattle;/ phosphorodithioates/ tick/ control;/ formamidines/ tick/ control

1286. Thomas, S. C. and Winner, W. E. (2000). A Rotated Ellipsoidal Angle Density Function Improves Estimation of Foliage Inclination Distributions in Forest Canopies. *Agricultural and Forest Meteorology, 100 (1) pp. 19-24, 2000.*
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ISSN: 0168-1923
Descriptors: Ellipsoidal distribution
Descriptors: Forest canopies
Descriptors: Leaf angle distribution
Descriptors: Plant canopies
Descriptors: Radiation transmission
Abstract: The 'ellipsoidal distribution', in which angles are assumed to be distributed parallel to the surface of an oblate or prolate ellipsoid, has been widely used to describe the leaf angle

distribution (LAD) of plant canopies. This ellipsoidal function is constrained to show a probability density of zero at an inclination angle of zero; however, actual LADs commonly show a peak probability density at zero, a pattern consistent with functional models of plant leaf display. A 'rotated ellipsoidal distribution' is described here, which geometrically corresponds to an ellipsoid in which small surface elements are rotated normal to the surface. Empirical LADs from canopy and understory species in an old-growth coniferous forest were used to compare the two models. In every case the rotated ellipsoidal function provided a better description of empirical data than did the non-rotated function, while retaining only a single parameter. The ratio of G-statistics for goodness of fit for the two functions ranged from 1.03 to 3.88. The improved fit is due to the fact that the rotated function always shows a probability density greater than zero at inclination angles of zero, can show a mode at zero, and more accurately characterizes the overall shape of empirical distributions. (C) 2000 Published by Elsevier Science B.V.
26 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.10.3 CROP SCIENCE: Tree Growth and Forest Management
Subfile: Plant Science

1287. Thomsen, I. K., Kjellerup, V., and Christensen, B. T. (2001). Leaching and Plant Offtake of N in Field Pea/Cereal Cropping Sequences With Incorporation of N-Labelled Pea Harvest Residues. *Soil Use and Management, 17 (4) pp. 209-216, 2001*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0266-0032
Descriptors: Nitrates
Descriptors: Leaching
Descriptors: Pisum sativum
Descriptors: Wheat
Descriptors: Barley
Descriptors: Crop residues
Descriptors: Denmark
Abstract: Field peas (Pisum sativum L.) were grown in sequence with winter wheat (Triticum aestivum L.) or spring barley (Hordeum vulgare L.) in large outdoor lysimeters. The pea crop was harvested either in a green immature state or at physiological maturity and residues returned to the lysimeters after pea harvest. After harvest of the pea crop in 1993, pea crop residues (pods and straw) were replaced with corresponding amounts of ¹⁵N-labelled pea residues grown in an adjacent field plot. Reference lysimeters grew sequences of cereals (spring barley/spring barley and spring barley/winter wheat) with the straw removed. Leaching and crop offtake of ¹⁵N and total N were measured for the following two years. These treatments were tested on two soils: a coarse sand and a sandy loam. Nitrate concentrations were greatest in percolate from lysimeters with immature peas. Peas harvested at maturity also raised the nitrate concentrations above those recorded for continuous cereal growing. The cumulative nitrate loss was 9-12gNO<inf>3</inf>-Nm⁻² after immature peas and 5-7 g NO<inf>3</inf>Nm<inf>-2</inf> after mature peas. Autumn sown winter wheat did not significantly reduce leaching losses after field peas compared with spring sown barley, ¹⁵N derived from above-ground pea residues accounted for 18-25% of the total nitrate leaching losses after immature peas and 12-17% after mature peas. When compared with leaching losses from the cereals, the extra leaching loss of N from roots and rhizodeposits of mature peas were estimated to be similar to losses of ¹⁵N from the above-ground pea residues. Only winter wheat yield on the coarse sand was increased by a previous crop of peas compared to wheat following barley. Differences between barley grown after peas and after barley were not statistically significant. ¹⁵N lost by leaching in the first winter after incorporation accounted for 11-19% of ¹⁵N applied in immature pea residues and

10-15% of ¹⁵N in mature residues. Another 2-5% were lost in the second winter. The ¹⁵N recovery in the two crops succeeding the peas was 3-6% in the first crop and 1-3% in the second crop. The winter wheat did not significantly improve the utilization of ¹⁵N from the pea residues compared with spring barley.
22 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.1.5.2 BIOCHEMISTRY: Metabolism: Nitrogen assimilation
Classification: 92.10.2.7 CROP SCIENCE: Agronomy and Horticulture: Leguminous and forage crops
Classification: 92.10.2.1 CROP SCIENCE: Agronomy and Horticulture: Cereals
Subfile: Plant Science

1288. Thomson, N. H., Miles, M. J., Popineau, Y., Harries, J. , Shewry, P., and Tatham, A. S. (1999). Small Angle X-Ray Scattering of Wheat Seed-Storage Proteins: Alpha -, Gamma - and Omega - Gliadins and the High Molecular Weight (Hmw) Subunits of Glutenin. *Biochimica et Biophysica Acta - Protein Structure and Molecular Enzymology, 1430 (2) pp. 359-366, 1999*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ISSN: 0167-4838
Descriptors: Gliadin
Descriptors: Glutenin
Descriptors: Small angle X-ray scattering
Abstract: Small angle X-ray scattering in solution was performed on seed-storage proteins from wheat. Three different groups of gliadins (alpha -, gamma - and omega -) and a high molecular weight (HMW) subunit of glutenin (1Bx20) were studied to determine molecular size parameters. All the gliadins could be modelled as prolate ellipsoids with extended conformations. The HMW subunit existed as a highly extended rod-like particle in solution with a length of about 69 nm and a diameter of about 6.4 nm. Specific aggregation effects were observed which may reflect mechanisms of self-assembly that contribute to the unique viscoelastic properties of wheat dough.
Copyright (C) 1999 Elsevier Science B.V.
25 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.1.1.6 BIOCHEMISTRY: Molecular Biology: Proteins
Subfile: Plant Science

1289. Thorhauge, F., Hansen, H., and Henriksen, K. (1990). Protection of Chinese Cabbage (Brassica Pekinensis) Against Insect Attacks by Covering the Crop With Plastic Net. *Tidsskr planteavl* 94: 307-312.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Covering a crop of Chinese cabbage with fibrelike nets of plastic makes it possible to protect the plants from attacks by insects such as the cabbage root fly. By this technique the crop can be grown without the application of insecticides. Several new plastic materials made of polypropylene used in growth promotion of vegetable crops are suitable for this purpose. Obviously the net material needs to be intact during the whole covering period, which might be up until a fortnight before harvest. Accidental perforation requires replacement of the net or implementation of a spraying programme with insecticides.
MESH HEADINGS: BIOLOGY/METHODS
MESH HEADINGS: BIOCHEMISTRY

MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/PHYSIOLOGY
MESH HEADINGS: PLANTS/METABOLISM
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: VEGETABLES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: INSECTS
MESH HEADINGS: NEMATODA
MESH HEADINGS: PARASITES
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PREVENTIVE MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: INSECTS/PHYSIOLOGY
MESH HEADINGS: PHYSIOLOGY, COMPARATIVE
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: PLANTS
MESH HEADINGS: DIPTERA
KEYWORDS: Methods
KEYWORDS: Biochemical Studies-General
KEYWORDS: Plant Physiology
KEYWORDS: Horticulture-Vegetables
KEYWORDS: Phytopathology-Diseases Caused by Animal Parasites
KEYWORDS: Phytopathology-Disease Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Field
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Cruciferae
KEYWORDS: Diptera
LANGUAGE: dan

1290. Tice, Colin M (2002). Selecting the right compounds for screening: use of surface-area parameters. *Pest Management Science* 58: 219-233.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:210355
Chemical Abstracts Number: CAN 136:381730
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Surface area (mol.; use of surface-area parameters for agrochem. screening of

herbicides and insecticides); Herbicides; Insecticides; Polar effect (use of surface-area parameters for agrochem. screening of herbicides and insecticides)
CAS Registry Numbers: 162320-67-4 (Flufenzine) Role: AGR (Agricultural use), PRP (Properties), BIOL (Biological study), USES (Uses) (Flufenzine; use of surface-area parameters for agrochem. screening of herbicides and insecticides); 50-29-3 (DDT); 52-68-6 (Trichlorfon); 54-11-5 (Nicotine); 55-38-9 (Fenthion); 56-38-2 (Parathion); 57-39-6 (Metepa); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 61-82-5 (Amitrole); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 70-43-9 (Barthrin); 72-43-5 (Methoxychlor); 72-54-8 (TDE); 72-56-0 (Ethylan); 76-03-9 (TCA); 76-44-8 (Heptachlor); 78-57-9 (Menazon); 80-33-1 (Chlorfenson); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 93-65-2 (Mecoprop); 93-71-0 (CDAA); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 94-82-6 (2,4-DB); 97-17-6 (Dichlofenthion); 101-42-8 (Fenuron); 107-49-3 (TEPP); 114-26-1 (Propoxur); 115-26-4 (Dimefox); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 119-12-0 (Pyridaphenthion); 120-36-5 (Dichlorprop); 121-20-0 (Cinerin II); 121-21-1 (Pyrethrin I); 121-75-5 (Malathion); 122-10-1 (Bomyl); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 126-22-7 (Butonate); 133-90-4 (Chloramben); 139-40-2 (Propazine); 141-66-2 (Dicrotophos); 143-50-0 (Chlordecone); 144-41-2 (Morphothion); 150-68-5 (Monuron); 152-16-9 (Schradan); 297-78-9 (Isobenzan); 297-97-2 (Thionazin); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 300-76-5 (Dibrom); 301-12-2 (Oxydemeton-methyl); 311-45-5 (Paraoxon); 315-18-4 (Mexacarbate); 327-98-0 (Trichloronate); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinfos); 510-15-6 (Chlorobenzilate); 534-52-1 (DNOC); 545-55-1 (TEPA); 555-37-3 (Neburon); 563-12-2 (Ethion); 584-79-2 (Allethrin); 640-15-3 (Thiometon); 644-64-4 (Dimetilan); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 759-94-4 (EPTC); 786-19-6 (Carbophenothion); 834-12-8 (Ametryne); 841-06-5 (Methoprotryne); 886-50-0; 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonofos); 947-02-4 (Phosfolan); 950-10-7; 950-37-8 (Methidation); 957-51-7 (Diphenamid); 1031-47-6 (Triamiphos); 1071-83-6 (Glyphosate); 1113-02-6 (Omethoate); 1114-71-2 (Pebulate); 1129-41-5 (Metolcarb); 1134-23-2 (Cycloate); 1172-63-0 (Jasmolin II); 1194-65-6 (Dichlobenil); 1420-07-1 (Dinoterb); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-18-0 (Prometon); 1646-88-4 (Aldoxycarb); 1689-83-4 (Ioxynil); 1689-84-5 (Bromoxynil); 1698-60-8 (Chloridazon); 1702-17-6 (Clopyralid); 1836-75-5 (Nitrofen); 1861-32-1 (Dacthal); 1861-40-1 (Benfluralin); 1912-24-9 (Atrazine); 1912-26-1 (Trietazine); 1918-00-9 (Dicamba); 1918-11-2 (Terbucarb); 1918-16-7 (Propachlor); 1982-47-4 (Chloroxuron); 1982-49-6 (Siduron); 2008-41-5 (Butylate); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2164-08-1 (Lenacil); 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2227-17-0 (Dienochlor); 2275-18-5 (Prothoate); 2275-23-2 (Vamidothion); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-10-7 (Xylylcarb); 2439-01-2 (Quinomethionate); 2463-84-5 (Dicapthon); 2497-07-6 (Oxydisulfoton); 2540-82-1 (Formothion); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 2631-37-0 (Promecarb); 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2655-14-3 (XMC); 2655-19-8 (Butacarb); 2674-91-1 (Oxydeprofos); 2921-88-2 (Chlorpyriphos); 2941-55-1 (Ethiolate); 3060-89-7 (Metobromuron); 3244-90-4 (Aspon); 3309-87-3 (DMCP); 3337-71-1 (Asulam); 3689-24-5 (Sulfotep); 3766-81-2 (Fenobucarb); 3792-59-4 (EPBP); 3811-49-2 (Dioxabenzofos); 3813-05-6 (Benazolin); 3942-54-9 (CPMC); 4151-50-2 (Sulfluramid); 4824-78-6 (Bromophos-ethyl); 4849-32-5 (Karbutilate); 5598-13-0; 5827-05-4 (IPSP); 5902-51-2 (Terbacil); 5915-41-3 (Terbuthylazine); 6164-98-3 (Chlordimeform); 6923-22-4 (Monocrotophos); 6988-21-2 (Dioxacarb); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 7292-16-2 (Propaphos); 7696-12-0 (Tetramethrin); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifor); 10453-86-8 (Resmethrin); 11141-17-6 (Azadirachtin); 12407-86-2 (Trimethacarb); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13181-17-4 (Bromofenoxim); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13593-03-8 (Quinalphos); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14816-18-3 (Phoxim); 14816-20-7 (Chlorphoxim); 15263-53-3 (Cartap); 15299-99-7 (Napropamide); 15972-60-8 (Alachlor); 16752-77-5 (Methomyl); 17606-31-4 (Bensultap); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 18854-01-8 (Isoxathion); 19044-88-3 (Oryzalin); 19937-59-8 (Metoxuron); 20354-26-1 (Methazole); 21548-32-3 (Fosthietan); 21609-90-5 (Leptophos); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinfos); 22259-30-9

(Formetanate); 22781-23-3 (Bendiocarb); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 23505-41-1 (Pirimiphos-ethyl); 23560-59-0 (Heptenophos); 23950-58-5 (Pronamide); 24017-47-8 (Triazophos); 24151-93-7 (Piperophos); 24934-91-6 (Chlormephos); 25057-89-0 (Bentazone); 25171-63-5 (Thiocarboxime); 25311-71-1 (Isofenphos); 25319-90-8 (MCPA-thioethyl); 25402-06-6 (Cinerin I); 26002-80-2 (Phenothrin); 26399-36-0 (Profluralin); 27314-13-2 (Norflurazon); 28249-77-6 (Thiobencarb); 29091-05-2 (Dinitramine); 29091-21-2 (Prodiamine); 29104-30-1 (Benzoximate); 29973-13-5 (Ethiofencarb); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 32861-85-1 (Chlomethoxyfen); 33089-61-1 (Amitraz); 33245-39-5 (Fluchloralin); 33820-53-0 (Isopropalin); 34256-82-1 (Acetochlor); 34622-58-7 (Orbencarb); 34643-46-4 (Prothiofos); 34681-10-2 (Butocarboxim); 35256-85-0 (Butam); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 35575-96-3 (Azamethiphos); 35597-43-4 (Bialaphos); 36335-67-8 (Butamifos); 36614-38-7 (Isothioate); 36756-79-3 (Tiocarbazil); 38260-54-7 (Etrimfos); 38727-55-8 (Diethatyl-ethyl); 39196-18-4 (Thiofanox); 39300-45-3 (Dinocap); 39515-40-7 (Cyphenothrin); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 41096-46-2 (Hydroprene); 41198-08-7 (Profenofos); 41295-28-7 (Methoxyphenone); 42509-80-8 (Isazophos); 42588-37-4 (Kinoprene); 42609-52-9 (Dymron); 42609-73-4 (Methyldymron); 50512-35-1; 50594-66-6 (Acifluorfen); 51218-45-2 (METOLACHLOR); 51218-49-6 (Pretilachlor); 51276-47-2 (Glufosinate); 51338-27-3 (Diclofop-methyl); 51487-69-5 (Cloethocarb); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52570-16-8 (Naproanilide); 52645-53-1 (Permethrin); 52756-25-9 (Flamprop-methyl); 52888-80-9 (Prosulfocarb); 52918-63-5 (Deltamethrin); 54593-83-8 (Chlorethoxyfos); 55283-68-6 (Ethalfluralin); 55285-14-8 (Carbosulfan); 55335-06-3 (Triclopyr); 55512-33-9 (Pyridate); 55634-91-8 (Alloxydim); 58011-68-0 (Pyrazolate); 59669-26-0 (Thiodicarb); 59682-52-9 (Fosamine); 59756-60-4 (Fluridone); 61213-25-0 (Flurochloridone); 62850-32-2 (Fenothiocarb); 63782-90-1 (Flamprop-M-isopropyl); 63935-38-6 (Cycloprothrin); 64249-01-0 (Anilofos); 64628-44-0 (Triflumuron); 65907-30-4 (Furathiocarb); 66215-27-8 (Cyromazine); 66441-23-4 (Fenoxaprop-ethyl); 66841-25-6 (Tralomethrin); 67129-08-2 (Metazachlor); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69335-91-7 (Fluazifop); 69377-81-7 (Fluroxypyr); 69806-40-2 (Haloxyfop-methyl); 69806-50-4 (Fluazifop-butyl); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 73250-68-7 (Mefenacet); 74051-80-2 (Sethoxydim); 74070-46-5 (Aclonifen); 74115-24-5 (Clofentezine); 76578-12-6 (Quizalofop); 77501-63-4 (Lactofen); 77501-90-7 (Fluoroglycofen-ethyl); 78587-05-0 (Hexythiazox); 79277-27-3 (Thifensulfuron methyl); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 80844-01-5 (Chloproxyfen); 80844-07-1 (Etofenprox); 81335-77-5 (Imazethapyr); 81405-85-8 (Imazamethabenz-methyl); 81777-89-1 (Clomazone); 82558-50-7 (Isoxaben); 82560-54-1 (Benfuracarb); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 83130-01-2 (Alanycarb); 83164-33-4 (Diflufenican); 85785-20-2 (Esprocarb); 85830-77-9 (Triazofenamide); 86209-51-0 (Primisulfuron-methyl); 86763-47-5 (Propisochlor); 87310-56-3 (Butenachlor); 87546-18-7 (Flumiclorac-pentyl); 87674-68-8 (Dimethenamid); 87757-18-4 (Isoxapyrifop); 87818-31-3 (Cinmethylin); 87820-88-0 (Tralkoxydim); 88402-43-1 (Chlorphthalim); 89784-60-1 (Pyraclofos); 90982-32-4 (Chlorimuron-ethyl); 94593-91-6 (Cinosulfuron); 95465-99-9 (Cadusafos); 95617-09-7 (Fenoxaprop); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Tebupirimphos); 96489-71-3 (Pyridaben); 96491-05-3 (Thenylchlor); 96525-23-4 (Flurtamone); 97780-06-8; 97886-45-8 (Dithiopyr); 98886-44-3 (Fosthiazate); 99105-77-8 (Sulcotrione); 99129-21-2 (Clethodim); 100646-51-3; 101007-06-1 (Acrinathrin); 101200-48-0 (Tribenuron-methyl); 101205-02-1; 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 104040-78-0 (Flazasulfuron); 104098-48-8 (Imazapic); 104770-29-8 (NC-330); 105024-66-6 (Silafluofen); 107360-34-9 (NC-170); 107713-58-6 (Flufenprox); 109293-97-2 (Diflufenzopyr); 111479-05-1 (Propaquizafop); 111578-32-6 (Metobenzuron); 111872-58-3 (Halfenprox); 111991-09-4 (Nicosulfuron); 112143-82-5 (Triazamate); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 112636-83-6 (Dicyclanil); 113036-88-7 (Flucycloxuron); 114311-32-9 (Imazamox); 114420-56-3 (Clodinafop); 117337-19-6 (Fluthiacet-methyl); 117718-60-2 (Thiazopyr); 119126-15-7 (Flupoxam); 119168-77-3 (Tebufenpyrad); 119738-06-6; 120068-37-3 (Fipronil); 120162-55-2 (Azimsulfuron); 122008-85-9 (Cyhalofop-butyl); 122453-73-0 (Chlorfenapyr); 122836-35-5 (Sulfentrazone); 122931-48-0 (RIMSULFURON); 123249-43-4 (Thidiazimin); 123312-89-0 (Pymetrozine); 125401-75-4 (Bispyribac); 126535-15-7

(Triflusulfuron-methyl); 128639-02-1 (Carfentrazone-ethyl); 129630-19-9 (Pyraflufen-ethyl); 131086-42-5 (Ethoxyfen-ethyl); 131929-63-0 (Spinosyn D); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138164-12-2 (Butroxydim); 138261-41-3 (Imidacloprid); 141776-32-1 (Sulfosulfuron); 142459-58-3 (Flufenacet); 144651-06-9 (Oxasulfuron); 144740-53-4 (Flupyrsulfuron-methyl); 147838-04-8 (XR-100); 149877-41-8 (Bifenazate); 150824-47-8 (Nitenpyram); 153233-91-1 (Etoxazole); 160791-64-0 (Flubrocythrinate); 161050-58-4 (Methoxyfenozide); 168088-61-7 (Pyribenzoxim); 173584-44-6 (Indoxacarb) Role: AGR (Agricultural use), PRP (Properties), BIOL (Biological study), USES (Uses) (use of surface-area parameters for agrochem. screening of herbicides and insecticides)

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Citations: 38) Reynolds, C; J Chem Inf Comput Sci 1998, 38, 305 Polar surface area, total surface area and percentage surface area have been calcd. from three-dimensional structures of 88 post-emergence herbicides, 93 pre-emergence herbicides and 237 insecticides. Preferred ranges of values of these parameters were identified. Since the compds. in the training sets are used on a wide variety of species and target sites with various application modes, the parameter ranges are necessarily broad. The utility of the surface-area parameter ranges in selection of compds. for agrochem. screening was compared with the use of ranges of the Lipinski Rule of 5 parameters: mol. mass, calcd. log P, no. of hydrogen-bond donors and no. of hydrogen-bond acceptors. The more computationally intensive surface-area parameters did not offer any obvious advantage over the Lipinski Rule of 5 parameters. [on SciFinder (R)] 1526-498X surface/ area/ parameter/

herbicide/ insecticide/ screening

1291. Tolstova, Y. U. S., Sukhoruchenko, G. I., and Ionova, Z. A. (1974). The Use of Trichogramma With Modern Chemical and Biological Preparations. *Khim. Sel. Khoz.* 12: 32-35.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The toxicity of different pesticides, such as parathion, malathion, lindane, endrin, diazinon, phenylmercury acetate, DDT, and metasystox to Trichogramma evanescens Westw. and Tr. embryophagum Htg. was studied to determine the optimal conditions for combined application of pesticides, biological preparations, and Trichogramma in pest control. Trichogramma was found to be highly susceptible to pesticides even in concentrations substantially below those commonly used in practice. Therefore, integrated pest control systems, including Trichogramma should not include broad-spectrum insecticides with high initial and residual toxicity, such as carbaryl, phthalophos, and rogor. Selective preparations of those with short-term toxic effect, such as phosalone and trichlorfon should be used. Trichogramma was found to be susceptible to entobacterin, both in pure form and in mixtures with small amounts of trichlorfon, carbaryl, and rogor (dimethoate). The findings indicate that insecticides and entobacterin can not be used simultaneousy with Trichogramma.
LANGUAGE: rus

1292. Tomkins, A. R. (Development of Insecticides for Integrated Pest Management of Kiwifruit in New Zealand. *British crop protection council. Brighton crop protection conference: pests and diseases, 1994 vol. 1-3; proceedings of an international conference, brighton, england, uk, november 21-24, 1994. Xxvi+498p.(Vol. 1); xxvi+454p.(Vol. 2); xxvi+466p.(Vol. 3) british crop protection council (bcpc): farnham, england, uk. Isbn 0-948404-80-9(set); isbn 0-948404-81-7(vol. 1); isbn 0-948404-82-5(vol. 2); isbn 0-948404-83-3(vol. 3).; 0 (0). 1994. 1199-1204.*
Chem Codes: Chemical of Concern: PSM Rejection Code: ABSTRACT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER MEETING PAPER MEETING POSTER ARMOURED SCALE INSECTS LEAFROLLERS
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: TROPICAL CLIMATE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS
MESH HEADINGS: LEPIDOPTERA
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Studies-General
KEYWORDS: Horticulture-Tropical and Subtropical Fruits and Nuts
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Integrated Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata

KEYWORDS: Actinidiaceae
KEYWORDS: Lepidoptera
LANGUAGE: eng

1293. Tondeur, R., Schiffers, B. C., and Verstraeten, C. (1990). Differential Susceptibility of Eupulvinaria-Hydrangeae Homoptera Coccidae to 22 Insecticides. *International symposium on crop protection. Meded fac landbouwwet rijksuniv gent* 55: 637-646.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM PYRIMIPHOS-METHYL PERMETHRIN FENITROTHION AMITRAL PIRIMICARB BIFENTHRIN URBAN TREE PLANTINGS FRANCE
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: HERBICIDES
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MESH HEADINGS: TREES
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MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
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KEYWORDS: General Biology-Symposia
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KEYWORDS: Horticulture-Flowers and Ornamentals
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Trees
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Homoptera
LANGUAGE: fre

1294. Toropov, Andrey A. and Benfenati, Emilio (2006). QSAR models for Daphnia toxicity of pesticides based on combinations of topological parameters of molecular structures. *Bioorganic & Medicinal Chemistry* 14: 2779-2788.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

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Database: CAPLUS
Accession Number: AN 2006:228578
Chemical Abstracts Number: CAN 144:344872
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Daphnia magna; Molecular topology; Pesticides; Simulation and Modeling (QSAR models for Daphnia toxicity of pesticides based on combinations of topol. parameters of mol. structures); Structure-activity relationship (toxic; QSAR models for Daphnia toxicity of pesticides based on combinations of topol. parameters of mol. structures)
CAS Registry Numbers: 50-29-3 (DDT); 51-03-6 (Piperonylbutoxide); 52-51-7 (Bronopol); 55-

38-9 (Fenthion); 56-72-4 (Coumaphos); 56-95-1 (Chlorhexidine diacetate); 57-24-9 (Strychnine); 58-36-6 (OBPA); 59-50-7; 62-74-8 (Sodium fluoroacetate); 63-25-2 (Carbaryl); 71-55-6 (Methylchloroform); 74-83-9 (Methylbromide); 75-07-0 (Acetaldehyde); 76-87-9 (Fentin hydroxide); 79-09-4 (Propionic acid); 81-81-2 (Warfarin); 82-66-6 (Diphacinone); 82-68-8 (PCNB); 83-79-4 (Rotenone); 86-50-0 (Azinphos methyl); 86-87-3 (Naphthaleneacetic acid); 87-86-5 (Pentachlorophenol); 88-04-0 (4-Chloro-3,5-xylenol); 91-20-3 (Naphthalene); 91-53-2 (Ethoxyquin); 94-11-1 (2,4-D Isopropyl ester); 94-75-7 (2,4-D); 94-82-6 (2,4-DB); 99-30-9 (Dichloran); 101-05-3 (Anilazine); 101-21-3 (Chlorpropham); 112-05-0 (Nonanoic acid); 112-12-9 (Methyl nonyl ketone); 112-30-1 (Decanol); 113-48-4 (MGK-264); 114-26-1 (Propoxur); 115-29-7 (Endosulfan); 116-06-3 (Aldicarb); 118-52-5 (DCDMH); 120-32-1 (2-Benzyl-4-chlorophenol); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 123-33-1 (Maleic hydrazide); 126-11-4 (Tris(hydroxymethyl)nitromethane); 132-27-4 (Sodium 2-phenylphenoate); 132-66-1 (Naptalam); 133-06-2 (Captan); 133-07-3 (Folpet); 133-32-4 (Indole-3-butyric acid); 134-62-3 (DEET); 136-45-8 (Dipropyl isocinchomeronate); 141-66-2 (Dicrotophos); 143-18-0 (Oleic acid potassium salt); 143-50-0 (Kepone); 145-73-3 (Endothall); 148-79-8 (Thiabendazole); 298-00-0 (Methylparathion); 300-76-5 (Naled); 301-12-2 (Oxydemeton methyl); 314-40-9 (Bromacil); 333-41-5 (Diazinon); 548-73-2 (Neurolidol); 556-61-6 (Methylisothiocyanate); 563-12-2 (Ethion); 643-79-8 (1,2-Benzenedicarboxaldehyde); 709-98-8 (Propanil); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 834-12-8 (Ametryn); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 1071-83-6 (Glyphosate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1192-52-5 (4,5-Dichloro-1,2-dithiol-3-one); 1194-65-6 (Dichlobenil); 1214-39-7 (N6-Benzyladenine); 1320-18-9; 1563-66-2 (Carbofuran); 1596-84-5 (Daminozide); 1610-18-0 (Prometon); 1646-88-4 (Aldoxycarb); 1689-84-5 (Bromoxynil); 1689-99-2 (Bromoxynil octanoate); 1897-45-6 (Chlorothalonil); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 1918-16-7 (Propachlor); 1929-73-3 (2,4-D Butoxyethanol ester); 1929-82-4 (Nitrapyrin); 1983-10-4 (TBTF); 2032-65-7 (Methiocarb); 2164-17-2 (Fluometuron); 2227-17-0 (Dienochlor); 2425-06-1 (Captafol); 2439-01-2 (Oxythioquinox); 2492-26-4 (Sodium 2-Mercaptobenzothiazolate); 2593-15-9 (Etridiazole); 2665-13-6; 2675-77-6 (Chloroneb); 2893-78-9 (Dichloro-s-triazinetrione sodium salt); 3064-70-8 (Bis(trichloromethyl)sulfone); 3337-71-1 (Asulam); 3380-34-5 (Triclosan); 3383-96-8 (Temephos); 3478-94-2 (Piperalin); 3547-33-9 (2-Hydroxyethyl octyl sulfide); 3691-35-8 (Chlorophacinone); 3861-41-4 (Bromoxynil butyrate); 4080-31-3; 4151-50-2 (Sulfluramid); 4602-84-0 (Farnesol); 5234-68-4 (Carboxin); 5598-13-0 (Chlorpyrifos-methyl); 5902-51-2 (Terbacil); 5915-41-3 (Terbutylazine); 6317-18-6 (Methylene bisthiocyanate); 7166-19-0 (Bromonitrostyrene); 7173-51-5 (DDAC); 7287-19-6 (Prometryn); 7673-09-8 (Trichloromelamine); 7696-12-0 (Tetramethrin); 7745-89-3 (3-Chloro-p-toluidine hydrochloride); 7747-35-5 (Oxazolidine E); 7779-27-3 (1,3,5-Triethylhexahydro-s-triazine); 10004-44-1 (Hymexazol); 10222-01-2 (DBNPA); 10605-21-7 (Carbendazim); 12407-86-2 (Trimethacarb); 13071-79-9 (Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 15299-99-7 (Napropamide); 15972-60-8 (Alachlor); 16079-88-2 (BCDMH); 16672-87-0 (Ethephon); 16752-77-5 (Methomyl); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazon); 21087-64-9 (Metribuzin); 21564-17-0 (TCMTB); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23031-36-9 (Prallethrin); 23103-98-2 (Pirimicarb); 23422-53-9 (Formetanate hydrochloride); 23564-05-8 (Thiophanate methyl); 25168-26-7 (2,4-D Isooctyl ester); 25311-71-1 (Isofenphos); 25954-13-6 (Fosamine ammonium); 26530-20-1 (Octhilinone); 26644-46-2 (Triforine); 26952-23-8 (Dichloropropene); 28159-98-0 (Irgarol); 28249-77-6 (Thiobencarb); 28772-56-7 (Bromadiolone); 29232-93-7 (Pirimiphos methyl); 29457-72-5 (Lithium perfluorooctane sulfonate); 29873-30-1 (DTEA); 33089-61-1 (Amitraz); 33245-39-5 (Fluchloralin); 33820-53-0 (Isopropalin); 34014-18-1 (Tebuthiuron); 34256-82-1 (Acetochlor); 34375-28-5 (2-(Hydroxymethylamino)ethanol); 35367-38-5 (Diflubenzuron); 35554-44-0 (Imazalil); 35691-65-7 (1,2-Dibromo-2,4-dicyanobutane); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 42588-37-4 (Kinoprene); 43222-48-6 (Difenzoquat methylsulfate); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51338-27-3 (Dichlofop methyl); 51707-55-2 (Thidiazuron); 53042-79-8; 53939-28-9 (Z-11-Hexadecenal); 55283-68-6 (Ethalfluralin); 55290-64-7 (Dimethipin); 55335-06-3 (Triclopyr); 55512-33-9 (Pyridate); 56073-

10-0 (Brodifacoum); 56425-91-3 (Flurprimidol); 56634-95-8 (2,6-Dibromo-4-cyanophenyl heptanoate); 56924-46-0 (Tricosene); 57754-85-5; 57966-95-7 (Cymoxanil); 58138-08-2 (Tridiphane); 59669-26-0 (Thiodicarb); 59756-60-4 (Fluridone); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 63333-35-7 (Bromethalin); 64359-81-5 (4,5-Dichloro-2-N-octyl-3(2H)-isothiazolone); 64902-72-3 (Chlorsulfuron); 66441-23-4 (Fenoxaprop ethyl); 66841-25-6 (Tralomethrin); 67485-29-4 (Hydramethylnon); 68253-91-8 (Fendridazone sodium); 68359-37-5 (Cyfluthrin); 72178-02-0 (Fomesafen); 72490-01-8 (Fenoxycarb); 74051-80-2 (Sethoxydim); 76738-62-0 (Paclobutrazol); 77182-82-2 (Glufosinate ammonium); 77732-09-3 (Oxadixyl); 79538-32-2 (Tefluthrin); 79622-59-6 (Fluazinam); 80844-07-1 (Ethofenprox); 81335-37-7 (Imazaquin); 81777-89-1 (Clomazone); 82633-79-2 (MTI); 82657-04-3 (Bifenthrin); 84087-01-4 (Quinclorac); 85264-33-1 (3,5-Dimethyl-(1-hydroxymethyl)pyrazole); 86479-06-3 (Hexaflumuron); 87674-68-8 (Dimethenamid); 91465-08-6 (l-Cyhalothrin); 94361-06-5 (Cyproconazole); 95737-68-1 (Pyriproxyfen); 96182-53-5 (Phostebupirim); 96489-71-3 (Pyridaben); 97886-45-8 (Dithiopyr); 98967-40-9 (Flumetsulam); 100728-84-5 (Imazamethabenz); 103361-09-7 (Flumioxazin); 104653-34-1 (Difethialone); 105726-67-8 (N-Methylneodecanamide); 107534-96-3 (Tebuconazole); 109293-98-3 (Diflufenzopyr sodium); 112226-61-6 (Halofenozide); 114369-43-6 (Fenbuconazole); 117718-60-2 (Thiazopyr); 119446-68-3 (Difenoconazole); 121552-61-2 (Cyprodinil); 122836-35-5 (Sulfentrazone); 122931-48-0 (Rimsulfuron); 123312-89-0 (Pymetrozine); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin); 131983-72-7 (Triticonazole); 134098-61-6 (Fenpyroximate); 135158-54-2 (Acibenzolar-s-methyl); 138261-41-3 (Imidacloprid); 141517-21-7 (Trifloxystrobin); 143390-89-0 (Kresoxim methyl); 149877-41-8 (Bifenazate); 161050-58-4 (Methoxyfenozide); 175013-18-0 (Pyraclostrobin) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (QSAR models for Daphnia toxicity of pesticides based on combinations of topol. parameters of mol. structures); 999-81-5 Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (clormequat chloride; QSAR models for Daphnia toxicity of pesticides based on combinations of topol. parameters of mol. structures); 113136-77-9 Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (cyclanilide; QSAR models for Daphnia toxicity of pesticides based on combinations of topol. parameters of mol. structures)

Citations: 1) Ren, B; J Chem Inf Comput Sci 2003, 43, 1121
Citations: 2) Bonchev, D; J Math Chem 1992, 9, 75
Citations: 3) Basak, S; J Math Chem 1990, 4, 185
Citations: 4) Basak, S; J Math Chem 1991, 7, 243
Citations: 5) Randic, M; J Chem Inf Comput Sci 2001, 41, 627
Citations: 6) Randic, M; J Chem Inf Comput Sci 1999, 39, 261
Citations: 7) Dearden, J; J Chem Inf Comput Sci 1999, 39, 231
Citations: 8) Balaban, A; J Chem Inf Comput Sci 1999, 39, 769
Citations: 9) Gutman, I; MATCH Commun Math Comput Chem 2004, 50, 83
Citations: 10) Gutman, I; MATCH Commun Math Comput Chem 2005, 53, 215
Citations: 11) Gutman, I; MATCH Commun Math Comput Chem 2005, 53, 225
Citations: 12) Toropov, A; J Mol Struct (THEOCHEM) 2002, 581, 11
Citations: 13) Toropov, A; J Mol Struct (THEOCHEM) 2004, 711, 173
Citations: 14) Toropov, A; J Mol Struct (THEOCHEM) 2001, 538, 287
Citations: 15) Seward, J; SAR QSAR Environ Res 2001, 11, 489
Citations: 16) Schultz, T; Toxicol Methods 1997, 7, 289
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Citations: 18) Toropov, A; J Mol Struct (THEOCHEM) 2002, 578, 129
Citations: 19) Toropov, A; J Mol Struct (THEOCHEM) 2004, 676, 165
Citations: 20) Toropov, A; J Mol Struct (THEOCHEM) 2004, 679, 225
Citations: 21) Toropov, A; J Chem Inf Comput Sci 2003, 43, 560
Citations: 22) Roncaglioni, A; J Environ Sci Health, Part B 2004, 4, 641
Citations: 23) Gutman, I; Chem Phys Lett 1993, 203, 378
Citations: 24) Tremolada, P; Aquat Toxicol 2004, 67, 87
Citations: 25) Cleuvers, M; Chemosphere 2005, 59, 199
Citations: 26) Cleuvers, M; Toxicol Lett 2003, 142, 185

Citations: 27) Devillers, J; SAR QSAR Environ Res 2000, 11, 25
Citations: 28) Devillers, J; SAR QSAR Environ Res 2001, 11, 397
Citations: 29) Liu, X; Chemosphere 2003, 50, 403
Citations: 30) Papa, E; Chemosphere 2005, 58, 559
Citations: 31) Kaiser, K; J Mol Struct (THEOCHEM) 2003, 622, 85
Citations: 32) Tao, S; Environ Pollut 2002, 116, 57
Citations: 33) Faucon, J; Chemosphere 2001, 44, 407 A topol. parameter is defined as an integer value of a given local or global invariant of a mol. graph. We examd. three types of local graph invariants, the vertex degrees (0EC), the extended connectivity of first order (1EC), and the nos. of paths of length two (P2), as elementary invariants for construction of quant. structure-activity relationships (QSAR). We also examd. combined invariants, obtained by multiplying one of these three elementary types with another (i.e., [0EC.1EC], [0EC.P2], and [1EC.P2]), as graph invariants. Finally, global invariants were used in the QSAR analyses, codifying the presence and nature of cycles in the mol. structures under consideration. We used the correlation wts. of these invariants to obtain optimal descriptors. These descriptors have been used in one-variable models to predict toxicity toward Daphnia magna for a set of pesticides. Statistical characteristics of the best model, based on the correlation wt. of local topol. parameters (the [0EC.P2]) together with the global topol. parameters, are the following: n = 220, r2 = 0.7822, s = 0.849, F = 783 (training set); n = 42, r2 = 0.7388, s = 0.941, F = 113 (test set). The role of these topol. parameters is discussed. [on SciFinder (R)] 0968-0896 QSAR/ model/ Daphnia/ toxicity/ pesticide/ mol/ topol

1295. Torres, C. M., Pico, Y., and Manes, J (1995). Analysis of pesticide residues in fruit and vegetables by matrix solid phase dispersion (MSPD) and different gas chromatography element-selective detectors. *Chromatographia* 41: 685-92.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:52610
Chemical Abstracts Number: CAN 124:85179
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Food analysis; Food contamination; Fruit; Grapefruit; Lemon; Lettuce; Orange; Pear; Plum; Tomato; Vegetable (detn. of pesticide residues in fruit and vegetables by matrix solid phase dispersion and different gas chromatog. element-selective detectors); Extraction (matrix solid phase dispersion; detn. of pesticide residues in fruit and vegetables by matrix solid phase dispersion and different gas chromatog. element-selective detectors); Pesticides (organochlorine; detn. of pesticide residues in fruit and vegetables by matrix solid phase dispersion and different gas chromatog. element-selective detectors); Pesticides (organophosphorus; detn. of pesticide residues in fruit and vegetables by matrix solid phase dispersion and different gas chromatog. element-selective detectors); Chromatographs (detectors, detn. of pesticide residues in fruit and vegetables by matrix solid phase dispersion and different gas chromatog. element-selective detectors)
CAS Registry Numbers: 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-07-3 (Folpet); 298-00-0 (Parathion-methyl); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 959-98-8; 2425-06-1 (Captafol); 2921-88-2 (Chlorpyriphos); 33213-65-9 Role: ANT (Analyte), BOC (Biological occurrence), BSU (Biological study, unclassified), POL (Pollutant), ANST (Analytical study), BIOL (Biological study), OCCU (Occurrence) (detn. of pesticide residues in fruit and vegetables by matrix solid phase dispersion and different gas chromatog. element-selective detectors) A comparison between different element selective detectors for the detn. of organophosphorus and organochlorine pesticide residues, from fruit and vegetables, was performed by capillary GC with electron capture detector (ECD), nitrogen

phosphorus detector (NPD), flame photometric detector (FPD) in the sulfur and phosphorus modes, and mass spectrometry detector (MSD) in selected ion monitoring (SIM) mode. Pesticides were extd. from the different foodstuffs by Matrix Solid Phase Dispersion (MSPD). Recoveries of 41-108% with relative std. deviation of 2-14% in the concn. range 0.5-10 mg L-1 were obtained in oranges, lemons, grapefruit, pears, plums, lettuce, and tomatoes. The results demonstrated that the exts. of all the samples can be analyzed by the detectors used since no interfering co-extd. compds. were detected. [on SciFinder (R)] 0009-5893 pesticide/ residue/ detn/ fruit/ vegetable/ technique

1296. Torres, C. M., Pico, Y., Redondo, M. J., and Manes, J (1996). Matrix solid-phase dispersion extraction procedure for multiresidue pesticide analysis in oranges. *Journal of Chromatography, A* 719: 95-103.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:7311
Chemical Abstracts Number: CAN 124:115651
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (extn.-gas chromatog. detn. of insecticides in oranges); Orange (multiresidue extn. method based on matrix solid-phase dispersion and gas chromatog. detn. of insecticides in); Food contamination (pesticides in oranges from Valencia central market in Spain); Extraction (liq.-solid, matrix solid-phase dispersion extn. procedure for multiresidue pesticide anal. in oranges)
CAS Registry Numbers: 86-50-0 (Methyl-azinphos); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-07-3 (Folpet); 298-00-0 (Methyl-parathion); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 2425-06-1 (Captafol); 2921-88-2 (Chlorpyriphos); 33213-65-9 (b-Endosulfan) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (extn.-gas chromatog. detn. of insecticides in oranges) A multiresidue extn. method based on matrix solid-phase dispersion (MSPD) is optimized for the extn. and gas chromatog. screening of eighteen insecticides (aldrin, carbophenothion, captafol, chlorpyriphos, chlorfenvinphos, diazinon, dicofol, a-endosulfan, b-endosulfan, ethion, fenitrothion, folpet, methidathion, malathion, methyl-azinphos, methyl-parathion, phosmet, and tetradifon) from oranges. After optimization of different parameters, such as type of solid phase used and the amt. of solid phase or eluent, recoveries ranged from 67 to 102% with relative std. deviations ranging from 2 to 10%. The limits of detection, calcd. as 3 times the baseline noise, ranged from 2 to 171 mg/kg. These limits of detection were about 10 times lower than the max. residue levels established by the European Community. Compared with classical methods, the described procedure is simple, less labor intensive and does not require prepn. and maintenance of equipment. Troublesome emulsions, such as those frequently obsd. in liq.-liq. partitioning, did not occur. [on SciFinder (R)] 0021-9673 insecticide/ detn/ orange/ extn/ chromatog;/ gas/ chromatog/ insecticide

1297. Torres, Carmen M., Pico, Yolanda, Marin, Rosa, and Manes, Jordi (1997). Evaluation of organophosphorus pesticide residues in citrus fruits from the Valencian Community (Spain). *Journal of AOAC International* 80: 1122-1128 .
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1997:638967
Chemical Abstracts Number: CAN 127:318252

Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Mandarin orange (Clementine; organophosphorus pesticide residues in citrus fruits from the Valencian Community, Spain); Grapefruit (Ruby; organophosphorus pesticide residues in citrus fruits from the Valencian Community, Spain); Lemon (Verna; organophosphorus pesticide residues in citrus fruits from the Valencian Community, Spain); Citrus; Food contamination; Grapefruit; Lemon; Orange; Pesticides; Satsuma (organophosphorus pesticide residues in citrus fruits from the Valencian Community, Spain); Pesticides (organophosphorus; organophosphorus pesticide residues in citrus fruits from the Valencian Community, Spain); Orange (sweet, Valencia; organophosphorus pesticide residues in citrus fruits from the Valencian Community, Spain); Orange (sweet, navel; organophosphorus pesticide residues in citrus fruits from the Valencian Community, Spain)
CAS Registry Numbers: 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl parathion); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyriphos); 13593-03-8 (Quinalphos) Role: BOC (Biological occurrence), BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (organophosphorus pesticide residues in citrus fruits from the Valencian Community, Spain)
Citations: 1) E C; Council Directive listing the maximum content on pesticide residues of some fruits and vegetables, 93/58/EEC 1993
Citations: 2) Garcia, S; J of Applied Toxicology 1992, 12(4), 251
Citations: 3) Hernandez-Hernandez, F; Chromatographia 1990, 29, 459
Citations: 4) Andersson, A; Fresenius J Anal Chem 1991, 339, 365
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Citations: 6) Nakamura, Y; J Agric Food Chem 1994, 42, 2508
Citations: 7) Barker, S; J Chromatogr 1989, 475, 353
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Citations: 9) Stafford, S; J Agric Food Chem 1992, 40, 1026
Citations: 10) Ling, Y; J Chromatogr A 1995, 695(1), 75
Citations: 11) Torres, C; Chromatographia 1995, 41, 685
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Citations: 15) Liao, W; J Assoc Off Anal Chem 1991, 74, 554
Citations: 16) Hong, J; J Chromatogr 1993, 639, 261
Citations: 17) Aguera, A; J Chromatogr 1993, 655, 293
Citations: 18) Miyahara, M; J Agric Food Chem 1994, 42, 2795
Citations: 19) Leoni, V; J Assoc Off Anal Chem 1992, 75, 511
Citations: 20) E C; Council Directive pesticide residues of some fruits and vegetables, 79/700/EEC 1979
Citations: 21) Food And Agriculture Organization Of The United Nations; International Behaviour Code for the Distribution and Utilization of Pesticides 1986
Citations: 22) Instituto Nacional de Estadistica; Encuesta de Presupuestos Familiares 1990-1991 1991 Approx. 200 citrus samples from markets of the Valencian Community (Spain) were analyzed to establish the residue levels of 12 organophosphorus pesticides during the 1994-1995 campaign. The organophosphorus pesticides carbophenothion, chlorpyriphos, chlorfenvinphos, diazinon, ethion, fenitrothion, malathion, methidation, methylparathion, phosmet, quinalphos, and tetradifon were simultaneously extd. by matrix solid-phase dispersion and detd. by gas chromatog.-mass spectrometry using selected ion monitoring mode. A total of 32.25% contained pesticide residues and 6.9% exceeded the European Union Maximum Residue Levels (MRLs). The pesticides found in the samples with residues above MRLs were carbophenothion, ethion, methidathion, and methyl parathion. Lower level residues of these and the other pesticides studied (except diazinon) were frequently found. The estd. daily intake of the 12 organophosphorus pesticide residues during the studied period was 4.87 * 10-4 mg/kg body wt./day. This value is

lower than the provisional tolerance dairy intakes proposed by the Food and Agriculture Organization and the World Health Organization. [on SciFinder (R)] 1060-3271 citrus/ fruit/ organophosphorus/ pesticide/ Spain

1298. Tracey, J. A. and Gallagher, H (1990). Use of glycopyrrolate and atropine in acute organophosphorus poisoning. *Human & Experimental Toxicology* 9: 99-100.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 1990:472629
Chemical Abstracts Number: CAN 113:72629
Section Code: 4-2
Section Title: Toxicology
CA Section Cross-References: 1
Document Type: Journal
Language: written in English.
Index Terms: Legal chemistry and medicine (atropine and glycopyrrolate protection against isofenphos and phosmet poisoning in humans in relation to); Blood serum (cholinesterase of human, in phosphorus insecticide poisoning); Poisoning (from isofenphos and phosmet, atropine and glycopyrrolate protection against); Heart (bradycardia, from organophosphorus poisoning, atropine and glycopyrrolate protection against)
CAS Registry Numbers: 9001-08-5 (Cholinesterase) Role: BIOL (Biological study) (of human blood serum, in phosphorus insecticide poisoning); 596-51-0 (Glycopyrrolate) Role: BIOL (Biological study) (phosphorus insecticide poisoning in humans protection by atropine and); 51-55-8 (Atropine) Role: BIOL (Biological study) (phosphorus insecticide poisoning in humans protection by glycopyrrolate and); 6735-59-7 (Pralidoxime) Role: BIOL (Biological study) (phosphorus insecticide poisoning in humans response to benzodiazepam and, atropine and glycopyrrolate combination in relation to); 439-14-5 (Diazepam); 59467-70-8 Role: BIOL (Biological study) (phosphorus insecticide poisoning in humans response to, atropine and glycopyrrolate combination in relation to); 732-11-6 (Phosmet); 25311-71-1 (Isofenphos) Role: BIOL (Biological study) (poisoning from, in humans, atropine and glycopyrrolate protection against) Two cases of organophosphorus poisoning are reported. Both were treated with a combination of atropine and glycopyrrolate as well as benzodiazepine and pralidoxime. The advantages of glycopyrrolate over atropine are discussed. [on SciFinder (R)] 0960-3271 organophosphorus/ poisoning/ atropine/ glycopyrrolate;/ phosphorus/ insecticide/ poisoning/ atropine/ glycopyrrolate;/ forensic/ phosphorus/ insecticide/ atropine/ glycopyrrolate;/ diazepam/ imidazolam/ phosphorus/ insecticide/ poisoning;/ pralidoxime/ benzodiazepine/ phosphorus/ insecticide/ poisoning

1299. Trajkovska, V., Petrovska-Jovanovi, S., and Cvetkovski, M (2003). Solid-Phase Extraction and HPLC/DAD for the Determination of Some Pesticides in Wine. *Analytical Letters* 36: 2291-2302.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:606864
Chemical Abstracts Number: CAN 139:322457
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food contamination; Reversed phase HPLC; Wine analysis (pesticides in wine detd. by solid phase extn. and HPLC with diode-array detection); Extraction (solid-phase; pesticides in wine detd. by solid phase extn. and HPLC with diode-array detection)
CAS Registry Numbers: 133-07-3 (Folpet); 732-11-6 (Phosmet); 5915-41-3 (Terbuthylazine);

15299-99-7 (Napropamide) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides in wine detd. by solid phase extn. and HPLC with diode-array detection)
Citations: 1) Gratzfeld-Husgen, A; HPLC for Environmental Analysis 1994
Citations: 2) Gratzfeld-Husgen, A; HPLC for Food Analysis 1996
Citations: 3) Soniassy, R; Water Analysis, Organic Micropollutants 1994
Citations: 4) Zoecklein, B; Wine Analysis and Production 1995
Citations: 5) Holland, P; J AOAC Int 1994, 77(1), 79
Citations: 6) Crespo, C; J Chromatogr A 1994, 670, 135
Citations: 7) Aguilar, C; J Chromatogr A 1997, 771, 221
Citations: 8) Meyer, M; J Chromatogr 1993, 629, 55
Citations: 9) Soleas, G; J Chromatogr A 2000, 882, 205
Citations: 10) Lerch, R; J Agric Food Chem 1994, 42(4), 922
Citations: 11) Pichon, V; J Chromatogr A 1994, 665, 269
Citations: 12) Lopez, L; J Agric Food Chem 1989, 37(3), 684
Citations: 13) Cabras, P; J Agric Food Chem 1992, 40(5), 817
Citations: 14) Gandara, J; J Agric Food Chem 1993, 41(4), 674
Citations: 15) Urruty, L; J Agric Food Chem 1996, 44(12), 3871
Citations: 16) Urruty, L; J Agric Food Chem 1997, 45(5), 1519
Citations: 17) Jeannot, R; Ital J Food Sci 2000, 12(2), 219
Citations: 18) Steinheimer, T; J Agric Food Chem 1993, 41(4), 588
Citations: 19) Dinelli, G; J Agric Food Chem 1995, 43(4), 951
Citations: 20) Schewes, R; J Chromatogr 1993, 641, 89
Citations: 21) Wang, Z; Food Additives and Contaminants 2000, 17(11), 915
Citations: 22) Chang, L; J Agric Food Chem 1991, 39(3), 617
Citations: 23) Cabanillas, C; J Liq Chromatogr 1991, 14(19), 3603
Citations: 24) Viviani-Nauer, A; Am J Enol Vitic 1997, 48(1), 67
Citations: 25) Mattern, G; J Agric Food Chem 1991, 39(4), 700
Citations: 26) Liu, C; J Agric Food Chem 1991, 39(4), 718
Citations: 27) Parrilla, P; J Liq Chromatogr 1993, 16(18), 4019
Citations: 28) Salau, J; Anal Chim Acta 1994, 293, 109
Citations: 29) Anon; Pharmeuropa 1996, 8(1), 114 A simple multiresidue anal. method for detn. of the pesticides: terbuthylazine, napropamide, folpet, and phosmet in wine, is described. Solid-phase extn., using ENVI-Carb tubes, is used for the isolation and trace enrichment of investigated pesticides from wine samples. Residues are detd. by high-performance liq. chromatog. with diode-array detection (HPLC/DAD). A satisfactory pesticide sepn. is achieved using Lichrospher 60 RP Select B (250 * 4.0 mm I.D., 5 mm) anal. column and acetonitrile: water (50:50, vol./vol.) at the flow rate 1 mL/min as the mobile phase. The sensitivity of the method was detd. by calcg. the limit of detection (LOD) ranged from 3.8 to 4.6 ng and limit of quantification (LOQ) ranged from 12.7 to 15.0 ng, for investigated pesticides. Recoveries of pesticides from wine samples, using solid-phase extn. procedure, at two concn. levels, were detd. [on SciFinder (R)] 0003-2719
pesticide/ wine/ analysis/ solid/ phase/ extn/ HPLC

1300. Tripp, Carl P. and Kanan, Sofian M (20030515). Selective filtration and concentration of toxic nerve agents. 31 pp.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:376695
Chemical Abstracts Number: CAN 138:364110
Section Code: 4-1
Section Title: Toxicology
Coden: PIXXD2
Index Terms: Oxides Role: ARU (Analytical role, unclassified), ANST (Analytical study) (adsorbent; selective filtration and concn. of toxic nerve agents); Chemical warfare agents (nerve

gases; selective filtration and concn. of toxic nerve agents); Pesticides (selective filtration and concn. of toxic nerve agents)
CAS Registry Numbers: 7631-86-9 (Silicon dioxide) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (adsorbent; selective filtration and concn. of toxic nerve agents); 77-81-6 (Tabun); 96-64-0 (Soman); 107-44-8 (Sarin); 121-75-5 (Malathion); 732-11-6 (Phosmet) Role: ANT (Analyte), PRP (Properties), ANST (Analytical study) (selective filtration and concn. of toxic nerve agents); 50-00-0 (Formaldehyde); 56-23-5 (Carbon tetrachloride); 67-56-1 (Methanol); 67-64-1 (Acetone); 71-43-2 (Benzene); 75-07-0 (Acetaldehyde); 75-65-0 (t-Butanol); 78-93-3 (Methyl ethyl ketone); 96-22-0 (Diethyl ketone); 108-94-1 (Cyclohexanone); 109-85-3 (2-Methoxyethylamine); 109-99-9 (Tetrahydrofuran); 110-54-3 (n-Hexane); 110-82-7 (Cyclohexane); 110-86-1 (Pyridine); 120-92-3 (Cyclopentanone); 121-44-8 (Triethylamine); 123-91-1 (1,4-Dioxane); 512-56-1 (Trimethyl phosphate); 598-58-3 (Methyl nitrate); 677-24-7 (Methyl dichlorophosphate); 756-79-6 (Dimethyl methyl phosphonate); 930-68-7 (2-Cyclohexen-1-one); 1768-34-9 (Methyl cyanate); 2739-97-1 (2-Pyridyl acetonitrile); 10025-87-3 (Phosphoric trichloride) Role: ARU (Analytical role, unclassified), ANST (Analytical study) (selective filtration and concn. of toxic nerve agents)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2001-1664
Priority Application Date: 20011023 The invention relates to methods of increasing the relative concn. of a target mol. in a gas stream, so that it can be more easily detected by a semiconducting metal oxide based sensor. In a first step of one method, a gas stream is passed through an adsorbent. The gas stream contains mols. of the target mol. in a mixt. contg. mols. of at least one non-target mol. Both the target and non-target mols. are adsorbed on the adsorbent. In a second step, another gas stream contg. mols. of a chem. displacer is passed through the adsorbent. The mols. of the chem. displacer adsorb on the adsorbent to selectively displace the target mols. from the adsorbent while leaving the non-target mols. adsorbed. The chem. displacement causes the displaced target mols. to enter the gas stream. The gas stream can then be passed through a semiconducting metal oxide based sensor to detect the target mols. Alternatively, the adsorbed chem. displacer displaces the non-target mols. while leaving the target mols. adsorbed on the adsorbent surface. In either case, a sepn. of the target and non-target mols. is achieved. In another method, an adsorbent is pretreated with a chem. displacer so that chem. displacer mols. are adsorbed on the adsorbent. A gas stream is passed through the adsorbent, the gas stream contg. target mols. mixed non-target mols. The target mols. adsorb on the adsorbent while the nontarget mols. do not adsorb and instead remain in the gas stream. The chem. displacer mols. are selectively adsorbed relative to the non-target mols. to prevent their adsorption on the adsorbent. Alternatively, the chem. displacer can be selectively adsorbed relative to the target mols., so that the non-target mols. adsorb on the adsorbent while the target mols. do not adsorb and remain in the gas stream. [on SciFinder (R)] B01D. toxic/ nerve/ agent/ concn/ adsorbent;/ pesticide/ nerve/ agent/ concn/ adsorbent

1301. Tripura, C., Sashidhar, B., and Podile, A. R. (Ethyl Methanesulfonate Mutagenesis-Enhanced Mineral Phosphate Solubilization by Groundnut-Associated Serratia Marcescens Gps-5. *Curr microbiol. 2007, feb; 54(2):79-84. [Current microbiology]: Curr Microbiol*.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: Twenty-three bacterial isolates were screened for their mineral phosphate-solubilizing (MPS) ability on Pikovskaya and National Botanical Research Institute's phosphate (NBRIP) agar. The majority of the isolates exhibited a strong ability to solubilize hydroxyapatite

in both solid and liquid media. The solubilization in liquid medium corresponded with a decrease in the pH of the medium. Serratia marcescens GPS-5, known for its biocontrol of late leaf spot in groundnut, emerged as the best solubilizer. S. marcescens GPS-5 was subjected to ethyl methanesulfonate (EMS) mutagenesis, and a total of 1700 mutants, resulting after 45 minutes of exposure, were screened on buffered NBRIP medium for alterations in MPS ability compared with that of the wild type. Seven mutants with increased (increased-MPS mutants) and 6 mutants with decreased (decreased-MPS mutants) MPS ability were isolated. All seven increased-MPS mutants were efficient at solubilizing phosphate in both solid and liquid NBRIP medium. Among the increased-MPS mutants, EMS XVIII Sm-35 showed the maximum (40%) increase in the amount of phosphate released in liquid medium compared with wild-type S. marcescens GPS-5, therefore, it would be a useful microbial inoculant in groundnut cultivation. EMS III Sm W, a nonpigmented mutant, showed the lowest solubilization of phosphate among the 6 decreased-MPS mutants.
MESH HEADINGS: Arachis hypogaea/growth &amp
MESH HEADINGS: development/*microbiology
MESH HEADINGS: Culture Media
MESH HEADINGS: Ethyl Methanesulfonate/*pharmacology
MESH HEADINGS: Mutation
MESH HEADINGS: Pest Control, Biological
MESH HEADINGS: Phosphates/*metabolism
MESH HEADINGS: Plant Leaves/microbiology
MESH HEADINGS: Serratia marcescens/*genetics/growth &amp
MESH HEADINGS: development/metabolism
MESH HEADINGS: Solubility
LANGUAGE: eng

1302. Triska, J (1995). Testing of membrane extraction disks for analysis of eighteen pesticides in marsh water samples by GC/MS. *Chromatographia* 40: 712-17.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:732828
Chemical Abstracts Number: CAN 123:122556
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (membrane extn. disks for anal. of pesticides in marsh water samples by GC/MS)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (membrane extn. disks for anal. of pesticides in marsh water samples by GC/MS); 115-90-2 (Fensulfothion); 122-34-9 (Simazine); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (a-Endosulfan); 1114-71-2 (Pebulate); 1582-09-8 (Trifluralin); 1912-24-9 (Atrazine); 2921-88-2 (Chlorpyrifos); 13071-79-9 (Terbufos); 15972-60-8 (Alachlor); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 33213-65-9 (b-Endosulfan); 51218-45-2 (Metolachlor); 52315-07-8 (Cypermethrin) Role: ANT (Analyte), ANST (Analytical study) (membrane extn. disks for anal. of pesticides in marsh water samples by GC/MS) The development of an anal. procedure suitable for use in investigating the distribution of Alachlor, Atrazine, Chlorpyrifos, Cyanazine, Cypermethrin, Diphenamid, Alpha-Endosulfan, Beta-Endosulfan, Fensulfothion, Fonofos, Methidation, Metolachlor, Metribuzin, Pebulate, Phosmet, Simazine, Terbufos, and Trifluralin in marsh water is reported. The procedure involves a solid-phase extn. of the pesticides using 90 min C18 disks. Quant. detn. of the pesticides was carried out by capillary gas chromatog. with mass spectrometry detection in the SIM mode. Recovery at low mg/L levels was tested by extn. of spiked distd. water using either neg. (vacuum) or pos. pressure. The detection limit was 0.05 ng/L for trifluralin and 2 ng/L for the other compds.

based on a 10-L water sample. The method was compared with liq.-liq. extn. using the Goulden Large Sample Extractor. [on SciFinder (R)] 0009-5893 membrane/ extn/ disk/ pesticide/ detn/ water

1303. Triska, J (1995). Testing of membrane extraction disks for analysis of eighteen pesticides in marsh water samples by GC/MS. [Erratum to document cited in CA123:122556]. *Chromatographia* 41: 254.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:873330
Chemical Abstracts Number: CAN 124:155358
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (membrane extn. disks for anal. of pesticides in marsh water samples by GC/MS (Erratum)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (membrane extn. disks for anal. of pesticides in marsh water samples by GC/MS (Erratum); 115-90-2 (Fensulfothion); 122-34-9 (Simazine); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 957-51-7 (Diphenamid); 959-98-8 (a-Endosulfan); 1114-71-2 (Pebulate); 1582-09-8 (Trifluralin); 1912-24-9 (Atrazine); 2921-88-2 (Chlorpyrifos); 13071-79-9 (Terbufos); 15972-60-8 (Alachlor); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 33213-65-9 (b-Endosulfan); 51218-45-2 (Metolachlor); 52315-07-8 (Cypermethrin) Role: ANT (Analyte), ANST (Analytical study) (membrane extn. disks for anal. of pesticides in marsh water samples by GC/MS (Erratum) The errors were not reflected in the abstr. or the index entries. [on SciFinder (R)] 0009-5893 erratum/ membrane/ extn/ disk/ pesticide/ detn;/ membrane/ extn/ disk/ pesticide/ detn/ erratum;/ extn/ disk/ pesticide/ detn/ water/ erratum

1304. Trondina, G. A. ([Method for the Separate Determination of Phthalophos and Phosalone in Fish and Water]. *Veterinariia. 1978, jun(6):96-8. [Veterinariia]: Veterinariia*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY, CHEM METHODS.

MESH HEADINGS: Animals
MESH HEADINGS: Chromatography, Thin Layer/methods
MESH HEADINGS: *Fishes
MESH HEADINGS: Insecticides/*analysis
MESH HEADINGS: *Organophosphorus Compounds
MESH HEADINGS: Pesticide Residues
MESH HEADINGS: *Water Pollutants
MESH HEADINGS: *Water Pollutants, Chemical
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Metod razdel'nogo opredeleniia ftalofosa i fozalona v rybe i vode.

1305. Trondina, G. A. (Method for the Separation Determination of Phthalophos and Phosalone in Fish and Water. *Veterinariya (moscow) (6): 96-98 1978.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. Thin-layer chromatographic method for the determination of phthalophos (phosmet) and phosalone in water and fish is described. Following extraction with chloroform from water, and with n-hexane from fish, the extracts are purified on silica gel column, using petroleum ether: acetone (9:1) for elution. The pesticides are separated on Silufol or silica gel plate, using chloroform: benzene (2:1) as a solvent system. The plate is sprayed with bromophenol blue and then with 1% citric acid for visualization. The Rf value of phthalophos on Silufol plates

is 0.63 0.05, that of phosalone 0.83 0.05. On silica gel plate, the Rf values of phthalophos and phosalone are 0.4 0.05 and 0.6 0.05, respectively. To identify phosalone on Silufol plates, 4-aminoantipyrine should also be used for visualization. On Silufol plate, the sensitivity amounts to 0.025 mg/kg in fish, and 0.005 mg/l in water. The recovery rates are 80 5% in fish, and 90 7% in water.
LANGUAGE: rus

1306. Trublaevich, Z. H. N and Semenova, E. N. (1993). Small Invertebrates Number as Indicator of Soil Pollution. *Pochvovedenie* 0: 126-129.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Sod-podzolic and chernozemic soils treated with pesticides and herbicides were under study. Small arthropoda population was shown to decrease, especially in the cases of insecticides application; thus the number of small arthropoda may serve as integral index of soil chemical pollution for the biological monitoring.
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: GRASSES/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: FRUIT
MESH HEADINGS: VEGETABLES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS
MESH HEADINGS: PLANTS
MESH HEADINGS: PLANTS
MESH HEADINGS: PLANTS
MESH HEADINGS: ARTHROPODS
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Agronomy-Weed Control
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Horticulture-Small Fruits
KEYWORDS: Horticulture-Vegetables
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Chenopodiaceae
KEYWORDS: Cruciferae
KEYWORDS: Saxifragaceae
KEYWORDS: Solanaceae
KEYWORDS: Acarina
LANGUAGE: rus

1307. Tsakiris, I. N., Danis, T. G., Stratis, I. A., Nikitovic, D., Dialyna, I. A., Alegakis, A. K., and Tsatsakis, A. M (2004). Monitoring of pesticide residues in fresh peaches produced under conventional and integrated crop management cultivation. *Food Additives & Contaminants* 21: 670-677.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2004:683835
Chemical Abstracts Number: CAN 141:259592
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Agriculture and Agricultural chemistry; Food contamination; Integrated pest control; Prunus persica; Safety (pesticide residues in fresh peaches produced under conventional and integrated crop management cultivation)
CAS Registry Numbers: 55-38-9 (Fenthion); 60-51-5 (Dimethoate); 86-50-0 (Azinphos-methyl); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 121-75-5 (Malathion); 133-06-2 (Captan); 298-00-0 (Parathion-methyl); 563-12-2 (Ethion); 732-11-6 (Phosmet); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 10265-92-6 (Methamidophos) Role: AGR (Agricultural use), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence), USES (Uses) (pesticide residues in fresh peaches produced under conventional and integrated crop management cultivation)
Citations: Chaput, D; Journal of the Association of Official Analytical Chemists 1988, 71, 542
Citations: Council Directive; Official Journal 1990, L 350, 71
Citations: European Commission; Monitoring for Pesticide Residues in Products of Plant Origin in the European Union, Norway, Iceland and Liechtenstein. Report 2001 2003, EU SANCO/20/03/final, 10
Citations: Fillion, J; Journal of the Association of Official Analytical Chemists International 1995, 78, 1252
Citations: Gianopolitis, K; Insecticides. Index 2000 2000
Citations: Greek Ministry of Agriculture Department of Policy and Documentation; Greek Agriculture with Numbers, Basic Characteristics 2000
Citations: Greek Ministry of Agriculture Organization of Certification and Supervision of Agricultural Products; AGRO 2.2: Management of Agricultural Environment -- Integrated Crop Management, Part 2: Demands for the Application in Plant Production 1999
Citations: Greek Ministry of Agriculture Organization of Certification and Supervision of Agricultural Products; AGRO 2.1: Management of Agricultural Environment -- Integrated Crop Management System, Part 1: General Demands 1999
Citations: Kaphalia, B; Journal of the Association of Official Analytical Chemists International 1990, 73, 509
Citations: Tsakiris, I; Bulletin of Environmental Contamination and Toxicology 2002, 69, 771
Citations: Tsakiris, I; Proceedings of the International Conference on Rural Health in Mediterranean and Balkan Countries 2002, 119
Citations: Tsakiris, I; Proceedings of the fifth International Congress of Turkish Society of Toxicology 2003, 86
Citations: Tsatsakis, A; Bulletin of Environmental Contamination and Toxicology 2002, 68, 824
Citations: Tsatsakis, A; Food Additives and Contaminants 2003, 20, 553 The frequency and severity of crop protection product (pesticide) contamination of peaches grown conventionally were compared with those of peaches grown by integrated crop management (ICM). The peach samples (n = 150) were collected preharvest (June-August 2001) from both conventional (n = 55) and ICM (n = 95) cultivations from the Pella and Imathia districts of Macedonia, Northern Greece. The residue levels of selected insecticides, fungicides and acaricides in peach samples were detd. by gas chromatog.-mass spectrometry following solid-phase extn. The concns. of all detected pesticides were lower than the max. residue limits (MRLs) in all peach samples grown with the ICM system ($p < 0.001$). However, chlorpyrifos residues at levels higher than the MRLs were detected in four peach samples (i.e. 7% of the total samples) grown by the conventional system. Comparing the results for both cultivation methods with the reported av. percentage (3.6%) of fruit samples with pesticide residues above the MRLs (European Union report for Greece in 2001), it was concluded that the initial implementation of the ICM in Greece was successful. The

present study indicates that ICM cultivation has a higher efficiency in terms of product safety and quality. Furthermore, the results suggest that the application of conventional cultivation requires continuous monitoring of various crop protection product levels. [on SciFinder (R)] 0265-203X
pesticide/ peach/ food/ contamination/ cultivation/ safety

1308. Tse, Hung, Comba, Michael, and Alaee, Mehran (2003). Method for the determination of organophosphate insecticides in water, sediment and biota. *Chemosphere* 54: 41-47.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:803971
Chemical Abstracts Number: CAN 140:186804
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Biota; Capillary gas chromatography; Geological sediments (detn. of organophosphate insecticides in water, sediment and biota by gas chromatog.); Insecticides (organophosphorus; detn. of organophosphate insecticides in water, sediment and biota by gas chromatog.)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (detn. of organophosphate insecticides in water, sediment and biota by gas chromatog.); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 2921-88-2 (Chlorpyrifos); 13071-79-9 (Terbufos) Role: ANT (Analyte), ANST (Analytical study) (detn. of organophosphate insecticides in water, sediment and biota by gas chromatog.)
Citations: Agueera, A; J Chromatogr 1993, 655, 293
Citations: Alaee, M; Proceedings International Association Great Lakes Research 1998
Citations: Astdr; Toxilogical profiles, www:crcpress.com 2000
Citations: Beltran, J; J Chromatogr A 1998, 808, 257
Citations: Blaha, J; J A O A C 1985, 68(6), 1095
Citations: Chee, K; Bull Sing N I Chem 1993, 21, 81
Citations: Comba, M; Variation between dual electron-capture detector concentrations of organochlorine pesticides and PCB congeners:recommendations for reporting dual capillary column measurements NWRI Report 96-08 1996, 1
Citations: Coulibaly, K; J Agric Food Chem 1994, 42, 2035
Citations: Davaki, A; Bibliography on aquatic pollution by organophosporous compounds MAP Technical Report Series no 44 1990, 1
Citations: de La Colina, C; J Chromatogr 1993, 655, 127
Citations: de Paoli, M; J Chromatogr 1992, 626, 145
Citations: Dionex; Extraction of organophosphorous pesticides using accelerated solvent extraction (ASE), Application Note 319 1996
Citations: Environment Canada; Canadian Water Quality Guidelines 1996
Citations: Eto, M; Organophosphorous Pesticides:Organic and Biological Chemistry 1974, 1
Citations: H C; Re-evaluation of organophosphate pesticides, www.hc.sc.gc.cs/pmra-arla/ 1999
Citations: Kjolholt, J; J Chromatogr 1985, 325, 231
Citations: Konrad, J; Analyst 1969, 44, 490
Citations: Lacorte, S; Anal Chem Acta 1993, 281, 71
Citations: Larson, S; Pesticides in Surface Waters 1997, 1
Citations: Lawrence, J; Int J Environ Anal Chem 1987, 29, 289
Citations: Law, L; J A O A C 1970, 53(6), 1276
Citations: Leoni, V; J Chromatogr 1971, 62, 63
Citations: Lores, E; Chemosphere 1987, 16(5), 1065

Citations: Miles, J; J Econ Entomol 1978, 71(1), 125
Citations: Mills, P; J A O A C 1972, 55(1), 39
Citations: Pusino, A; Pestic Sci 1988, 24, 1
Citations: Quasimeme; Quasimeme Bull 2001, January(1), 1
Citations: Usepa; Organophosphate pesticides in food Organophosphate pesticide tolerance and reassessment and reregistration, www.epa.gov/pesticide/op 1996
Citations: Taylor, J; Quality Assurance of Chemical Measurements 1987, 1 A procedure for the detn. of 13 organophosphate insecticides (OPs) in water, sediment and biota at low ppb levels is described. Samples were extd. with dichloromethane or acetone/hexane and cleaned up with micro-column silica gel chromatog. Measurements were made by dual capillary column gas chromatog. using both nitrogen-phosphorus (NPD) and electron capture (ECD) detection. Recoveries from fortified water samples ranged from 76% to 102% for all sample types. Practical detection limits ranged between 0.003 and 0.029 mg/l in natural water samples, 0.0004-0.005 mg/g w.w. for sediments, and 0.001-0.005 mg/g w.w for biota using the NPD and ECD method. Losses in sediments were experienced when sulfur was removed. Precision and accuracy were not affected in sediment samples where sulfur was not removed. [on SciFinder (R)] 0045-6535
organophosphorus/ insecticide/ detn/ water/ sediment/ biota/ gas/ chromatog

1309. Tse, Hung, Rais-Firouz, Arman, Comba, Michael, Alaee, Mehran, and Lee, Bill (1998). Determination of the stability of organophosphorus pesticides in sediment and biota samples. 707-712.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:558841
Chemical Abstracts Number: CAN 133:242102
Section Code: 61-2
Section Title: Water
CA Section Cross-References: 5
Document Type: Conference
Coden: 69AGQ3
Language: written in English.
Index Terms: Pesticides (organophosphorus; stability of organophosphorus pesticides in sediment and biota samples); Environmental pollution (sediment; stability of organophosphorus pesticides in sediment and biota samples); Biota (stability of organophosphorus pesticides in sediment and biota samples)
CAS Registry Numbers: 56-38-2 (Ethylparathion); 60-51-5 (Dimethoate); 86-50-0 (Methylguthion); 121-75-5 (Malathion); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Dibrom); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Imidan); 944-22-9 (Fonofos); 2921-88-2 (Dursban); 13071-79-9 (Terbufos) Role: POL (Pollutant), OCCU (Occurrence) (stability of organophosphorus pesticides in sediment and biota samples)
Citations: 1) Chee, K; Bull Singapore Natl Inst Chem 1993, 21, 81
Citations: 2) OMAFRA; Survey of pesticide use in Ontario 1993
Citations: 3) Driss, M; J Chromtogr 1993, 639, 352
Citations: 4) National Laboratory for Environmental Testing; Manual of Analytical Methods 1998, 3 A procedure to det. the stability of organophosphorus (OP) pesticides in sediment and biota is described. The stability of OP pesticides in samples fortified at 1-5 mg/Kg was studied. Samples were stored at 4 Deg for 1 wk and at -20 Deg for ?2 mo under both natural and acidic conditions. Initially a method was developed for the detn. of the 13 OP pesticides at sub mg/Kg levels. Sediment and the biota samples were extd. with hexane/acetone 80:20 followed by silica gel column fractionation. The measurements were made using a dual column GC equipped with a N-P detector and electron capture detector. Mean recoveries of OP pesticides from fortified sediment and biota samples in the 1-5 mg/Kg range were 76-91% for sediments and 78-96% for biota samples. Sediment samples stored at 4 Deg showed significant decompn. after 1 wk. Samples stored at -20 Deg were stable during the 1st month of storage, however, some decompn. was obsd. when the samples were analyzed after 2 mo. Similar results were obsd. for the biota

samples with the exception that diazinon and dibrom. After 1 mo of storage at -20 Deg, 57% of diazinon was recovered in natural samples, and none was recovered in any other stored samples. Dibrom was not recovered from samples stored at 4 Deg. [on SciFinder (R)] stability/ organophosphorus/ pesticide/ sediment/ biota

1310. Tsuda, T., Inoue, T., Kojima, M., and Aoki, S. (1996). Pesticides in Water and Fish from Rivers Flowing into Lake Biwa. *Bull.Environ.Contam.Toxicol.* 57: 442-449.
Chem Codes: Chemical of Concern: SZ,FNT,MLN,DZ,CPY,FNTH,IFP,MDT,PSM,TBC,CBF,CTN,FTL Rejection Code: NO DURATION/SURVEY.

1311. Tsuda, T., Inoue, T., Kojima, M., and Aoki, S. (1996). Pesticides in Water and Fish From Rivers Flowing Into Lake Biwa. *Bulletin of Environmental Contamination and Toxicology. Vol. 57, no. 3, pp. 442-449. Sep 1996.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0007-4861
Descriptors: Article Subject Terms: pesticides
Descriptors: water pollution
Descriptors: bioaccumulation
Descriptors: Pisces
Descriptors: freshwater fish
Descriptors: agricultural pollution
Descriptors: agricultural runoff
Descriptors: fish
Descriptors: Japan, Biwa L.
Descriptors: water pollution sources
Descriptors: Article Taxonomic Terms: Pisces
Descriptors: Article Geographic Terms: Japan, Honshu, Shiga Prefect., Biwa L.
Abstract: We have already reported various pesticide contamination of water and fish (pale chub, ayu sweetfish and dark chub) from rivers flowing into Lake Biwa from April in 1988 to March in 1992. In this report, the same surveys were more extensively performed for twenty one pesticides (salithion, diazinon, IBP, tolclofosmethyl, chlorpyriphos, fenthion, malathion, fenitrothion, isofenphos, phenthoate, prothiophos, propaphos, methidathion, butamifos, isoprothiolane, edifenphos, EPN, pyridaphenthion, phosmet, benthiocarb and simetryne) from April in 1992 to March in 1993, and for nine pesticides (fenobucarb, carbofuran, simazine, chlorothalonil, pretilachlor, isoprothiolane, flutolanil, benthiocarb and simetryne) from April in 1993 to March in 1994.
Language: English
Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: X 24136 Environmental impact
Classification: D 04802 Pollution characteristics and fate
Classification: P 2000 FRESHWATER POLLUTION
Classification: Q5 01504 Effects on organisms
Classification: SW 3020 Sources and fate of pollution
Classification: Q5 01503 Characteristics, behavior and fate
Subfile: Water Resources Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality; Pollution Abstracts; Ecology Abstracts; Toxicology Abstracts

1312. Tsui, H. P. and Hu, C. C. (2005). Pollen Morphology of Six Species in Thunbergia, of One Species Each in Staurogyne and Acanthus (Acanthaceae) From China. *Acta Phytotaxonomica Sinica, 43 (2) pp. 116-122, 2005.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0529-1526

Descriptors: Thunbergioideae
Descriptors: Nelsonioideae
Descriptors: Acanthoideae
Descriptors: Acanthaceae
Descriptors: Pollen morphology
Descriptors: Systematics
Abstract: Pollen grains of six species in Thunbergia (subfamily Thunbergioideae), and of one species each in Staurogyne (subfamily Nelsonioideae) and Acanthus (subfamily Acanthoideae) in the Acanthaceae from China were examined under SEM. Pollen grains in Thunbergia are spheroidal, with the apertures being spiral and the exine ornamentation being psilate, granulate or rarely baculate. This pollen type is very special in this family and has been considered to represent a primitive condition. Pollen grains in Staurogyne are spheroidal, 3-colporate, with the exine ornamentation being psilate. Pollen grains in Acanthus are prolate, 3-colpate, with the exine ornamentation being finely reticulate or microperforate. Pollen morphological characteristics support the traditional placement of these three genera into three different subfamilies in the Acanthaceae.
25 refs.
Language: Chinese
English; Chinese
Publication Type: Journal
Publication Type: Article
Country of Publication: China
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Subfile: Plant Science

1313. Tsukamoto, Masuhisa and Casida, John E (1967). Metabolism of methylcarbamate insecticides by the NADPH2-requiring enzyme system from houseflies. *Nature (London, United Kingdom)* 213: 49-51.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

Database: CAPLUS
Accession Number: AN 1967:64627
Chemical Abstracts Number: CAN 66:64627
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Houseflies (methylcarbamate insecticide metabolism by reduced nicotinamide adenine dinucleotide phosphate-requiring enzyme from); Enzymes Role: BIOL (Biological study) (reduced nicotinamide adenine dinucleotide phosphate-requiring, of houseflies, methylcarbamate insecticide metabolism by)
CAS Registry Numbers: 53-57-6 Role: BIOL (Biological study) (enzyme requiring, from housefly in methylcarbamate insecticide metabolism); 10309-97-4 Role: BIOL (Biological study) (from Baygon reaction with enzyme of housefly); 50-29-3; 114-26-1; 309-00-2; 315-18-4; 671-04-5; 732-11-6; 2032-59-9; 2032-65-7 Role: BPR (Biological process), BSU (Biological study, unclassified), BIOL (Biological study), PROC (Process) (metabolism of, by enzyme of housefly)
Homogenates of the whole body of any of 6 housefly strains in the presence or absence of NADPH2 did not extensively metabolize 14C-labeled Baygon, but the abdomen homogenates of these insects were much more active than homogenates of the head, thorax, or whole body in the presence of NADPH2. This abdomen activity, almost specific for NADPH2, resided predominantly in the microsomal fraction. The addn. of homogenates of the head or thorax, individually or in combination, to the abdomen homogenates markedly reduced the activity of the

abdomen NADPH2-requiring enzyme system. The activity of the abdomen homogenate was greater for any of 3 carbamate-resistant strains than for any of 3 laboratory strains of the housefly. The enzyme activity was higher for adult files fed milk than it was for those fed sugar and water. Similar results were obtained for 9 other methylcarbamate insecticides. As detd. by tentative characterization of the methylcarbamate metabolites by autoradiography and thin-layer chromatog., aromatic hydroxylation occurred at either the 4- or 5-position of carbaryl, and O-dealkylation occurred with Baygon to yield 2-hydroxyphenol methylcarbamate. 25 references. [on SciFinder (R)] 0028-0836 INSECTICIDES/ METAB/ FLY;/ METHYLCARBAMATES/ METAB/ FLY;/ BAYGON/ ENZYME/ METAB/ FLY;/ FLY/ ENZYME/ METAB/ BAYGON;/ CARBAMATES/ METAB/ FLY/ ENZYME;/ HOUSEFLY/ INSECTICIDES

1314. Tsunoda, N. (Simultaneous Determination of Organophosphorus Pesticides by Thin-Layer Chromatography. *Eisei kagaku; 32 (6). 1986 (recd. 1987). 447-454.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM 4-P NITROBENZYLPYRIDINE PALLADIUM CHLORIDE DISCRIMINATING POWER
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: MOVEMENT
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: GRASSES/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Movement (1971-)
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Agronomy-Weed Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: jpn

1315. Tsuzuki, Manabu (2000). Thermodynamic estimation of vapor pressure for organophosphorus pesticides. *Environmental Toxicology and Chemistry* 19: 1717-1726.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:422279
Chemical Abstracts Number: CAN 133:131138
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal
Language: written in English.
Index Terms: Pesticides   (organophosphorus; thermodn. estn. of vapor pressure for organophosphorus pesticides); Pesticides; Thermodynamics; Vapor pressure   (thermodn. estn. of vapor pressure for organophosphorus pesticides)

CAS Registry Numbers: 55-38-9 (Fenthion); 56-38-2; 60-51-5 (Dimethoate); 62-73-7; 121-75-5 (Malathion); 122-14-5; 298-00-0 (Methyl parathion); 300-76-5 (Naled); 311-45-5 (Paraoxon); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 741-58-2 (Bensulide); 777-52-6 (p-Nitrophenylphosphorodichloridate); 944-22-9 (Fonofos); 950-35-6 (Methyl Paraoxon); 962-58-3 (Diazinon oxon); 1113-02-6 (Omethoate); 1634-78-2 (Malaoxon); 2012-00-2 (EPN oxon); 2104-64-5 (EPN); 2255-17-6; 2275-06-1; 2310-17-0 (Phosalone); 2463-84-5 (Dicapthon); 2597-03-7 (Fenthoate); 2636-26-2 (Cyanophos); 2921-88-2 (Chlorpyriphos); 3735-33-9 (Phosmet oxon); 5598-15-2 (Chlorpyrifos oxon); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Metamidophos); 13194-48-4 (Ethoprophos); 17109-49-8 (Edifenphos); 24934-91-6 (Chlormephos); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 35400-43-2 (Sulprofos); 36335-67-8 (Butamifos); 36519-00-3 (Phosdiphen); 41198-08-7 (Profenofos); 57018-04-9 (Tolclofos-methyl); 61090-94-6 (Cyanophos oxon); 64709-45-1 (Pyrimiphos methyl oxon); 286856-83-5 (S 4120) Role: PRP (Properties) (thermodn. estn. of vapor pressure for organophosphorus pesticides)

Citations: 1) U S Environmental Protection Agency; Vapor pressure 1996, EPA 712-C-96-043
Citations: 2) Hamilton, D; J Chromatogr 1980, 195, 75
Citations: 3) Eitzer, B; Environ Sci Technol 1988, 22, 1362
Citations: 4) Kim, Y; J Chromatogr 1984, 314, 37
Citations: 5) Bidleman, T; Anal Chem 1984, 56, 2490
Citations: 6) Spieksma, W; J Chromatogr 1994, 672, 141
Citations: 7) Donovan, S; J Chromatogr A 1996, 749, 123
Citations: 8) Myrdal, P; Int Eng Chem Res 1997, 36, 2494
Citations: 9) Mackay, D; Environ Sci Technol 1982, 16, 645
Citations: 10) Organization For Economic Cooperation And Development; OECD Guideline for the Testing of Chemicals 1995, 1
Citations: 11) Wustner, D; Residue Rev 1974, 53, 53
Citations: 12) Watson, K; Ind Eng Chem 1943, 35, 398
Citations: 13) Yalkowsky, S; Ind Eng Chem Fundam 1979, 18, 108
Citations: 14) Grain, C; Handbook of Chemical Property Estimation Methods 1982, 1
Citations: 15) Fishtine, S; Ind Eng Chem 1963, 55, 47
Citations: 16) Meissner, H; Chem Eng Prog 1949, 45, 149
Citations: 17) Rechsteiner, C; Handbook of Chemical Property Estimation Methods 1982, 1
Citations: 18) Sugden, S; J Chem Soc 1924, 125, 1167
Citations: 19) McGowan, J; Chem Ind 1952, 495
Citations: 20) Katagi, T; Classical and Three Dimensional QSAR in Agriculture ACS Symposium Series 606 1995, 48
Citations: 21) Kidd, H; The Agrochemicals Handbook, 3rd ed 1991
Citations: 22) Graphpad; PRISM Software, Ver 2.01
Citations: 23) Wolfenden, R; J Am Chem Soc 1983, 105, 1028
Citations: 24) Hinckley, D; J Chem Eng Data 1990, 35, 232
Citations: 25) Suntio, L; Reviews of Environmental Contamination and Toxicology 1988, 103, 1
Citations: 26) Addison, J; Chemosphere 1981, 10, 355
Citations: 27) Spencer, W; J Agric Food Chem 1979, 27, 273
Citations: 28) Hawley, G; The Condensed Chemical Dictionary 1981
Citations: 29) Grant, J; HACKH's Chemical Dictionary, 4th ed 1969 A method was developed to est. vapor pressure of organophosphorus compds. having various functional groups or bond types. The method requires only information on chem. structure of the compds. The thermodn. approach using the modified Watson equation was successfully applied to est. the vapor pressures of organophosphorus pesticides, including phosphorothionates, phosphorodithioates, phosphoramidothioates, phosphates, phosphorothiolates, and phosphorodithiolates. The optimization of the Watson method was found essential for correctly estg. the vapor pressures of organophosphorus compds., as were the adequate molar refraction of phosphorus atoms in the Eisenlohr correlation and the introduction of an empirical const. for the nitro group in Meissner's equation. The no. of possible hydrogen bond sites was found to improve the accuracy of estd. vapor pressures, esp. for pesticides possessing the P=O moiety. Our modified Watson equation

was used to successfully elucidate the vapor pressure of pesticides ranging from 10-5 to 101 Pa at 298 K and could be used to correctly predict the vapor pressures of other organophosphorus pesticides not utilized in the anal. [on SciFinder (R)] 0730-7268 thermodn/ estn/ vapor/ pressure/ organophosphorus/ pesticide

1316. Tuinstra, L. G. M. Th., Van de Spreng, P., and Gaikhorst, P (1995). Ion trap detection for development of a multi residue/multi matrix method for pesticide residues in agricultural products. *International Journal of Environmental Analytical Chemistry* 58: 81-91.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:822207
Chemical Abstracts Number: CAN 123:226222
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Apple; Food analysis; Onion; Pear; Pesticides; Spinach (ion trap detection for development of a multi residue/multi matrix method for pesticide residues in agricultural products); Food (salads, ion trap detection for development of a multi residue/multi matrix method for pesticide residues in agricultural products)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7; 82-68-8 (Quintozene); 86-50-0 (Azinphos methyl); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 299-86-5 (Crufomate); 314-40-9 (Bromacil); 333-41-5 (Diazinon); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1085-98-9 (Dichlofluanide); 1113-02-6 (Omethoate); 1582-09-8 (Trifluralin); 1836-75-5 (Nitrofen); 2104-96-3 (Bromophos); 2275-23-2 (Vamidothion); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2425-06-1 (Captafol); 2540-82-1 (Formothion); 4824-78-6 (Bromophos ethyl); 5598-13-0; 7786-34-7 (Mevinphos); 10311-84-9 (Dialifos); 10552-74-6 (Nitrothal-isopropyl); 13171-21-6 (Phosphamidone); 15310-01-7 (Benodanil); 15972-60-8 (Alachlor); 21087-64-9 (Metribuzin); 23103-98-2 (Pirimicarb); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 29232-93-7 (Pirimiphos methyl); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 42576-02-3 (Biphenox); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 60168-88-9 (Fenarimol) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (ion trap detection for development of a multi residue/multi matrix method for pesticide residues in agricultural products) In the Netherlands for the detn. of more than 400 pesticides thirteen multi residue methods and about 170 single residue methods are in use. A literature search learns that about 200 pesticides are gas chromatog. (GC) amenable, that quant. extn. procedures exist and these pesticides also give good recovery when gel permeation (GPC) is used for cleanup of exts. A strategy is discussed to develop a universal multipesticide method, esp. paying attention to plant material, using a universal very sensitive detection system, e.g. the ion trap detector. Exptl. data obtained with diverging matrixes are presented together with some thoughts on online GPC-GC combinations, using a temp. programmable injector in the GC system. [on SciFinder (R)] 0306-7319 pesticide/ multiresidue/ detn/ ion/ trap

1317. Tumasyan, L. A., Kovkasyan, M. Ts, and Grigoryan, K. S. (1986). Ovicidal Effect of Pesticides. *Biol zh arm* 39: 410-418.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM INSECTICIDE
MESH HEADINGS: BIOCHEMISTRY

MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: GENITALIA
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: EMBRYOLOGY
MESH HEADINGS: FETAL DEVELOPMENT
MESH HEADINGS: LARVA
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
KEYWORDS: Biochemical Studies-General
KEYWORDS: Reproductive System-General
KEYWORDS: Toxicology-General
KEYWORDS: Developmental Biology-Embryology-General and Descriptive
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
LANGUAGE: rus

1318. Turiel, E. , Bordin, G., Rodr&Iacute, and Guez, A. R. (Trace Enrichment of (Fluoro)Quinolone Antibiotics in Surface Waters by Solid-Phase Extraction and Their Determination by Liquid Chromatography-Ultraviolet Detection. *J chromatogr a. 2003, aug 8; 1008(2):145-55. [Journal of chromatography. A]: J Chromatogr A.*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

ABSTRACT: A new and simple analytical methodology for the simultaneous analysis of acidic and zwitterionic (fluoro)quinolones in surface waters at trace concentration level is presented. The method is based on the preconcentration of these analytes by a solid-phase extraction procedure and their subsequent quantification by liquid chromatography using ultraviolet detection. The breakthrough volumes of the selected (fluoro)quinolones in four different sorbents--C18, styrenedivinylbenzene (SDB), C18-cation-exchange and SDB-cation-exchange--have been evaluated and varied between 25 and 150 ml depending on the antibiotic and the sorbent used. An exhaustive study of the influence of sample pH on the preconcentration step has been carried out in order to find a suitable procedure for extraction of acidic and zwitterionic FQs in one single step. Under optimum conditions, it was possible to percolate up to 250 ml of water solution onto both C18 and SDB-cation-exchange cartridges with quantitative recoveries for all the analytes tested. However, matrix components of the surface water samples analysed negatively affected the recoveries of the analytes in the SDB-cation-exchange cartridge and thus, C18 cartridges were finally selected for the analysis of the (fluoro)quinolones in lake and river water. The limits of detection achieved with this procedure varied between 8 and 20 ng l(-1) proving its suitability for the determination of the (fluoro)quinolones in water samples at a realistic environmental concentration level.
MESH HEADINGS: Anti-Bacterial Agents/*analysis
MESH HEADINGS: Fluoroquinolones/*analysis
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Reproducibility of Results
MESH HEADINGS: Spectrophotometry, Ultraviolet/*methods

MESH HEADINGS: Water Pollutants, Chemical/*analysis
LANGUAGE: eng

1319. Tyler, A. (1956). Physico-chemical properties of the fertilizins of the sea urchin Arbacia punctulata and the sand dollar Echinarachnius parma. *Experimental Cell Research* 10: 377-386.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Measurements have been made of the sedimentation rates, diffusion, viscosity and electrophoretic mobilities of the fertilizins of the sea urchin Arbacia punctulata and the sand dollar Echinarachnius parma. From the data for Arbacia a molecular weight of 280,000 is calculated, and a value of 300,000 considered more probable. The axial ratio is estimated to be 28 to 1, calculated for an unhydrated prolate ellipsoid and 20 to 1 if 0.4 gram of water is assumed to be bound per gram of fertilizin. The Echinarachnius fertilizin sedimented more slowly than that of Arbacia. The measurements of electrophoretic mobilities show these fertilizins to be highly acidic as had been found in other species. This data also permitted calculations of valence for Arbacia fertilizin as 14.25 effective negatively charged groups per molecule at pH 7 and 11.25 at pH 4.85. Measurements of the amount of fertilizin absorbed show that a single spermatozoon binds approximately 100,000 molecules, and therefore possesses at least that many receptor sites. The relation of this to certain features of fertilization is briefly discussed.
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1320. Ulicn&Aacute, O, B&Aacute, Tora, I., Kubalov&Aacute, V, Brixov&Aacute, and E (1988). [The Effect of Silymarin on Gluconeogenesis in the Liver of Rats After Damage Due to Phosmet]. *Bratisl Lek Listy* 89: 678-682.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Flavonoids/*pharmacology
MESH HEADINGS: Gluconeogenesis/*drug effects
MESH HEADINGS: Insecticides/*toxicity
MESH HEADINGS: Liver/drug effects/*metabolism
MESH HEADINGS: Male
MESH HEADINGS: Phosmet/*toxicity
MESH HEADINGS: Rats
MESH HEADINGS: Rats, Inbred Strains
MESH HEADINGS: Silymarin/*pharmacology
LANGUAGE: slo
TRANSLIT/VERNAC TITLE: Vplyv silymarínu na glukoneogenézu v peceni potkanov po poskodení phosmetom.

1321. Unai, T. (1980). Toxicological Studies on the Metabolism of the Insecticides Pyrethroids and Rotenoids. *J.Pestic.Sci.* 5: 453-461 (JPN) (ENG ABS).
Chem Codes: EcoReference No.: 39170
Chemical of Concern: RTN,PSM,TMT,PMR,DCM,ATN Rejection Code: NON-ENGLISH.

1322. Unno, M., Masuda, S., Ono, T. A., and Yamauchi, S. (Orientation of a Key Glutamine Residue in the Bluf Domain From Appa Revealed by Mutagenesis, Spectroscopy, and Quantum Chemical Calculations. *J am chem soc. 2006, may 3; 128(17):5638-9. [Journal of the american chemical society]: J Am Chem Soc*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

LANGUAGE: eng

1323. Vainshtein, P., Shapiro, M., and Gutfinger, C. (2004). Mobility of permeable aggregates: effects of shape and porosity. *Journal of Aerosol Science* 35: 383-404.

Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

Hydrodynamic resistances of spheroidal porous agglomerates are calculated theoretically for circumstances when the flow is directed either parallel or perpendicular to their symmetry axes. Expressions for the equivalent mobility radii of oblate and prolate spheroids are calculated and generalized for wide ranges of particle porosities, sizes and fractal dimensions Df. Aggregate shape and permeability are shown to have competitive effects on their mobility. Permeability has the strongest effect on the mobility radii of agglomerates with shapes close to spherical and for extremely porous structures. For fractal-like agglomerates, permeability has the strongest effects for low Df structures, composed of about several hundreds of elementary particles. Mobility radii of these agglomerates are found to have fractal dimensions about 10% higher than the one that could be obtained from the geometrical size analysis. Large fractal agglomerates behave like impermeable bodies even if their average porosity is large. A similar behavior is characteristic of very small agglomerates, because their porosity is normally low. The calculated mobility radii are used for correlating the size-dependent free fall velocity of porous ice crystals. Mobility/ Porous aggregates/ Fractal dimension/ Shape http://www.sciencedirect.com/science/article/B6V6B-4BD5MWF-1/2/8d0cc335c92980ca913288de1947717b

1324. Valcke, Mathieu, Samuel, Onil, Bouchard, Michele, Dumas, Pierre, Belleville, Denis, and Tremblay, Claude (2006). Biological monitoring of exposure to organophosphate pesticides in children living in peri-urban areas of the Province of Quebec, Canada. *International Archives of Occupational and Environmental Health* 79: 568-577.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

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Database: CAPLUS
Accession Number: AN 2006:965005
Chemical Abstracts Number: CAN 146:67420
Section Code: 59-2
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Environmental pollution; Health hazard; Human; Risk assessment; Urine analysis (assessment of exposure to organophosphate pesticides through measurements of semi-specific alkyl phosphate metabolites in children from peri-urban areas of the province of Quebec, Canada); Development (child; assessment of exposure to organophosphate pesticides through measurements of semi-specific alkyl phosphate metabolites in children from peri-urban areas of the province of Quebec, Canada); Pesticides (organophosphorus; assessment of exposure to organophosphate pesticides through measurements of semi-specific alkyl phosphate metabolites in children from peri-urban areas of the province of Quebec, Canada)
CAS Registry Numbers: 12789-45-6 (Methylphosphate); 14265-44-2D (Phosphate) Role: ADV (Adverse effect, including toxicity), BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (assessment of exposure to organophosphate pesticides through measurements of semi-specific alkyl phosphate metabolites in children from peri-urban areas of the province of Quebec, Canada); 598-02-7 (Diethylphosphate); 813-78-5 (Dimethylphosphate); 1765-40-8 (Pentafluorobenzyl bromide); 2465-65-8; 32534-66-0 (Dimethyldithiophosphate); 52857-42-8 (Diethyldithiophosphate); 59401-04-6 (Dimethylthiophosphate) Role: ADV (Adverse effect, including toxicity), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence) (assessment of exposure to organophosphate pesticides through measurements of semi-specific alkyl phosphate metabolites in children from peri-urban areas of the province of Quebec, Canada); 56-38-2 (Parathion); 60-27-5 (Creatinine); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 86-50-0 (Azinphosmethyl); 121-75-5 (Malathion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2921-88-2 (Chlorpyrifos) Role: BSU (Biological study, unclassified), BIOL (Biological study) (assessment of exposure to organophosphate pesticides through measurements of semi-specific alkyl phosphate metabolites in children from peri-urban

areas of the province of Quebec, Canada)
Citations: Adgate, J; Environ Health Perspect 2001, 109, 583
Citations: Aprea, C; Environ Health Perspect 2000, 108, 521
Citations: Barr, D; Environ Health Perspect 2004, 112, 186
Citations: Bearer, C; Environ Health Perspect 1995, 103(Suppl 6), 7
Citations: Bell, E; Epidemiology 2001, 12, 148
Citations: Berkowitz, G; Environ Health Perspect 2003, 111, 79
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Citations: Carrier, G; Toxicol Sci 1999, 47, 23
Citations: National Center for Environmental Health Centers for Disease Control and Prevention; National Report on Human Exposure to Environmental Chemicals 2001
Citations: National Center for Environmental Health Centers for Disease Control and Prevention; Second National Report on Human Exposure to Environmental Chemicals 2003
Citations: Curl, C; Environ Health Perspect 2003, 111, 377
Citations: Eaton, L; Neurotoxicology 2000, 21, 101
Citations: Eskenazi, B; Environ Health Perspect 1999, 107(Suppl 3), 409
Citations: Fenske, R; Am J Public Health 1990, 80, 689
Citations: Fenske, R; J Expo Anal Environ Epidemiol 2002, 12, 21
Citations: Fenske, R; Environ Health Perspect 2000, 108, 515
Citations: Furlong, C; Neurotoxicology 2000, 21, 91
Citations: Goldman, L; Environ Health Perspect 1995, 103(Suppl 6), 13
Citations: Gorse, I; Quebec's Pesticide sales balance sheet for the year 2000 (in French) 2004, Envirodoq ENV/2004/0320
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Citations: Johnson, R; WMJ 2000, 99, 34
Citations: Koch, D; Environ Health Perspect 2002, 110, 829
Citations: Lambert, W; Environ Health Perspect 2005, 113, 504
Citations: Landrigan, P; Environ Health Perspect 1999, 107(Suppl 3), 431
Citations: Lowenherz, C; Environ Health Perspect 1997, 105, 1344
Citations: Lu, C; Environ Health Perspect 2001, 109, 299
Citations: MacIntosh, D; Environ Health Perspect 2001, 109, 1
Citations: Melnyk, L; J Expo Anal Environ Epidemiol 1997, 7, 61
Citations: National Research Council Committee on Pesticides in the Diets of Infants and Children; Pesticides in the Diets of Infants and Children 1993
Citations: O'Rourke, M; J Expo Anal Environ Epidemiol 2000, 10, 678
Citations: Reed, K; J Expo Anal Environ Epidemiol 1999, 9, 513
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Citations: Shalat, S; J Expo Anal Environ Epidemiol 2003, 13, 42
Citations: Shaw, G; Epidemiology 1999, 10, 60
Citations: Shurdut, B; Regul Toxicol Pharmacol 1998, 28, 165
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Citations: Vereecken, C; Appetite 2004, 43, 93
Citations: Zahm, S; Environ Health Perspect 1998, 106, 893
Citations: Zartarian, V; J Expo Anal Environ Epidemiol 1997, 7, 543
Citations: Zartarian, V; J Expo Anal Environ Epidemiol 1995, 5, 21 This study was undertaken to assess the exposure to organophosphate (OP) pesticides in children from peri-urban areas of the Province of Quebec, Canada, through measurements of semi-specific alkylphosphate (AP) metabolites. Eighty-nine children aged between 3 and 7 years were recruited via pamphlets sent to day-care centers. A first morning urine void was collected early in the spring of 2003 prior to summertime, which is the usual period of outdoor pesticide use. During summertime, up to five more first morning voids were repeatedly collected, at 72-h intervals, over a 13-day period. The potential determinants of exposure were assessed by a questionnaire at the time of urine collection.

Results: Methylphosphate metabolites were detectable in 98.2% of the 442 samples analyzed while ethylphosphates were detected in 86.7% of the samples. The geometric mean concn. (GM) of the total AP metabolites was 61.7 mg/g creatinine (range: 2.7-1967.3 mg/g creatinine). The difference in urinary AP concns. between samples collected during spring and summer was non-significant (P = 0.08). There was also no significant difference in the mean AP concns. between summer samples of individuals living in municipalities where outdoor pesticide use is or is not restricted (P = 0.25). However, the presence of a pet in the house was assocd. with an increase in AP concns. during spraying season (P = 0.02). Pesticides were seldom used, as reported by the questionnaire. A significant correlation was also obsd. (P < 0.001) between the urinary AP concns. in samples provided by siblings at the same time period. Conclusions: Mean concns. of AP were generally higher than those reported in other studies. The obsd. exposure apparently occurred mainly through the dietary ingestion of OP residues. These data raise questions on the levels of OP residues in Quebec food and the possibility that our participants consumed more fruits and vegetables than those in other studies. [on SciFinder (R)] 0340-0131 organophosphate/ pesticide/ exposure/ alkyl/ phosphate/ metabolite/ children/ Quebec/ Canada

1325. Van Cuyk, S., Siegrist, R., Logan, A., Masson, S., Fischer, E., and Figueroa, L. (Hydraulic and Purification Behaviors and Their Interactions During Wastewater Treatment in Soil Infiltration Systems. *Water res. 2001, mar; 35(4):953-64. [Water research]: Water Res.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

ABSTRACT: Four three-dimensional lysimeters were established in a pilot laboratory with the same medium sand and either an aggregate-laden (AL) or aggregate-free (AF) infiltration surface and a 60- or 90-cm soil vadose zone depth to ground water. During 48 weeks of operation, each lysimeter was dosed 4 times daily with septic tank effluent (STE) at 5 cm/d (AL) or 8.4 cm/d (AF). Weekly monitoring was done to characterize the STE, percolate flow and composition, and water content distributions within the lysimeters. Bromide tracer tests were completed at weeks 0, 8, and 45 and during the latter two times, ice nucleating active (INA) bacteria and MS-2 and PRD-1 bacteriophages were used as bacterial and viral surrogates. After 48 weeks, soil cores were collected and analyzed for chemical and microbial properties. The observations made during this study revealed a dynamic, interactive behavior for hydraulic and purification processes that were similar for all four lysimeters. Media utilization and bromide retention times increased during the first two months of operation with the median bromide breakthrough exceeding one day at start-up and increasing to two days or more. Purification processes were gradually established over four months or longer, after which there were high removal efficiencies (>90%) for organic constituents, microorganisms, and virus, but only limited removal of nutrients. Soil core analyses revealed high biogeochemical activity within the infiltrative zone from 0 to 15 cm depth. All four lysimeters exhibited comparable behavior and there were no significant differences in performance attributable to infiltrative surface character or soil depth. It is speculated that the comparable performance is due to a similar and sufficient degree of soil clogging genesis coupled with bioprocesses that effectively purified the wastewater effluent given the adequate retention times and high volumetric utilization's of the sand media.
MESH HEADINGS: Soil
MESH HEADINGS: Waste Disposal, Fluid/instrumentation/*methods
MESH HEADINGS: Water Pollutants, Chemical/isolation &amp
MESH HEADINGS: purification
MESH HEADINGS: Water Purification/*methods
LANGUAGE: eng

1326. Van, D. E. N. Broeck K and Vandecasteele, C. (1998). Elimination of Interferences in the Determination of Arsenic and Determination of Arsenic in Percolate Waters From an Industrial Landfill by Inductively Coupled Plasma Mass Spectrometry. *Analytical letters* 31: 1891-1903.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The determination of arsenic in environmental samples suffers interference by chloride which gives rise to the polyatomic interference of

40Ar35Cl on 75As. Mathematical correction methods based on the ratios 40Ar37Cl/40Ar35Cl, 35Cl16O/40Ar35Cl or 37Cl16O/40Ar35Cl, are discussed and compared with each other. The method is applied to the determination of arsenic in treated percolate water from a landfill where arsenic containing waste is landfilled. The results obtained when applying the different equations were in good agreement with each other. The results for the untreated percolate water, which could be diluted far enough to eliminate matrix effects and showed negligible interference from chloride, were in good agreement with results obtained with Capillary Zone Electrophoresis. Hydride generation made it possible to determine As(III) and by difference As(V) in both waters. 99.7% of the arsenic present in the percolate water was As(V), which means that during the lan
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: COMPARATIVE STUDY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: MINERALS/ANALYSIS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
KEYWORDS: Comparative Biochemistry
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Methods-Minerals
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
LANGUAGE: eng

1327. van der Salm, C., Verstraten, J. M., and Tiktak, A. (1996). The influence of percolation rate on the weathering rates of silicates in an E horizon of an Umbric Albaqualf. *Geoderma* 73: 83-106.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Weathering rates of silicates obtained from laboratory experiments are generally one or two orders of magnitude higher than field weathering rates. To obtain more information on this gap in weathering rates a large undisturbed soil column (length 30 cm and a surface area of 113 cm2) was percolated with a HCl/H2SO4 solution. Percolation rates during the experiment were reduced in three steps from 0.89 to 0.15 cm d-1. A dynamic multi-layer model including transient flow, hydrodynamic dispersion, geochemical transformations and equilibria was utilized to simulate the percolate from the soil column. During the experiment weathering rates decreased by a factor of 5.6 upon a reduction in percolation rate. This reduction could only be partly explained by changes in saturation indices or by depletion of reactive components. The results could be simulated by assuming the following relationship between weathering and percolation rate: weathering FLUX = weathering rate x (H)[gamma] x (percolation rate)[beta]. This phenomenon is probably caused by the fact that at low percolation rates water stagnates in part of the pores and weathering rates reduce due to saturation, whereas in other pores water is quickly replaced and weathering rates remain constant. Results showed that the best fit to the observed data was obtained with a value of 0.5 for [gamma] and 1.2 for [beta]. The obtained relationship was utilized to scale the weathering rate obtained from' the column experiment to field conditions with lower average soil water fluxes and to laboratory experiments (pH-stat) with much higher percolation fluxes. Estimated weathering rates for field conditions and pH stat experiments were close to observed values.

http://www.sciencedirect.com/science/article/B6V67-3WDC3GB-5/2/abfaf72d5d4bace4b4e0a1062bbb6d96

1328. Van Der Sloot, H. A., Van Zomeren, A., Meeussen, J. C., Seignette, P., and Bleijerveld, R. (Test Method Selection, Validation Against Field Data, and Predictive Modelling for Impact Evaluation of Stabilised Waste Disposal. *J hazard mater. 2007, mar 15; 141(2):354-69. [Journal of hazardous materials]: J Hazard Mater*.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE, MODELING.

ABSTRACT: In setting criteria for landfill classes in Annex II of the EU Landfill Directive, it proved to be impossible to derive criteria for stabilised monolithic waste due to the lack of information on release and release controlling factors in stabilised waste monofills. In this study, we present a scientific basis, which enables a realistic description of the environmental impact of stabilised waste landfills.The work in progress involves laboratory testing of different stabilisation recipes, pilot scale studies on site and evaluation of field leachate from a full-scale stabilisation landfill. We found that the pHs in run-off and in percolate water from the pilot experiment are both around neutral. The neutral pH in run-off is apparently caused by the rapid atmospheric carbonation of those alkaline constituents that are released. The soil, used as a liner protection layer, controls the release to the subsurface below the landfill. This soil layer buffers pH and binds metals. The modelling results show that the chemistry is understood rather well. Differences between predicted and actual leaching might then be attributed to discrepancies in the description of sorption processes, complexation to organic matter and/or kinetic effects in the leaching tests. We conclude that this approach resulted in a new scientific basis for environmental impact assessment of stabilised waste landfills. The integrated approach has already resulted in a number of very valuable observations, which can be used to develop a sustainable landfill for monolithic waste and to provide guidance for the management of waste to be stabilised (e.g. improved waste mix design).
MESH HEADINGS: Hazardous Waste/*analysis
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Models, Chemical
MESH HEADINGS: Refuse Disposal/*methods
MESH HEADINGS: Soil Pollutants/analysis
MESH HEADINGS: Water Pollutants, Chemical/analysis
LANGUAGE: eng

1329. van der Sloot, Hans A., van Zomeren, Andre, Meeussen, Johannes C. L., Seignette, Paul, and Bleijerveld, Rob (2007). Test method selection, validation against field data, and predictive modelling for impact evaluation of stabilised waste disposal: Stabilisation/Solidification Treatment and Remediation: Advances in S/S for Waste and Contaminated Land. *Journal of Hazardous Materials* 141: 354-369.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: MODELING, FATE.

In setting criteria for landfill classes in Annex II of the EU Landfill Directive, it proved to be impossible to derive criteria for stabilised monolithic waste due to the lack of information on release and release controlling factors in stabilised waste monofills. In this study, we present a scientific basis, which enables a realistic description of the environmental impact of stabilised waste landfills.The work in progress involves laboratory testing of different stabilisation recipes, pilot scale studies on site and evaluation of field leachate from a full-scale stabilisation landfill. We found that the pHs in run-off and in percolate water from the pilot experiment are both around neutral. The neutral pH in run-off is apparently caused by the rapid atmospheric carbonation of those alkaline constituents that are released. The soil, used as a liner protection layer, controls the release to the subsurface below the landfill. This soil layer buffers pH and binds metals. The modelling results show that the chemistry is understood rather well. Differences between predicted and actual leaching might then be attributed to discrepancies in the description of sorption processes, complexation to organic matter and/or kinetic effects in the leaching tests. We conclude that this approach resulted in a new scientific basis for environmental impact assessment of stabilised waste landfills. The integrated approach has already resulted in a number of very valuable observations, which can be used to develop a sustainable landfill for monolithic waste and to provide guidance for the management of waste to be stabilised (e.g. improved waste mix design). Stabilisation/ Geochemical modelling/ Environmental impact/ Leaching tests/ Waste management http://www.sciencedirect.com/science/article/B6TGF-4K4XJGB-1/2/dffe1947a1e1389a3c6b08c147bf73d6

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, VIRUS.

Small-angle X-ray-scattering measurements have been made on dilute solutions of two of the separated components of alfalfa mosaic virus. Top component a has an electronic radius of gyration of 129 A and bottom component 216 A. These results are accurate to about 5%. The extended scattering curve is in best agreement with a prolate, roughly cylindrical, shape for each particle. Top component a has a diameter of about 230 A and a length of 350 A. For bottom component the diameter is 220 A and the length 700 A. These results are not as reliable as the radii of gyration. Rather large hydrations are indicated for both particles. http://www.sciencedirect.com/science/article/B73G7-482YMPX-12/2/2ff73f720669ac76ac1d5641810b4b1a

1331. Varga, Laszlo, Pietruszkiewicz, Adolph, and Ryan, Marion (1959). Studies on hyaluronic acid : I. The influence of ionic strength on the sedimentation and diffusion properties. *Biochimica et Biophysica Acta* 32: 155-165.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Hyaluronic acid was prepared by an electrophoretic separation technique. This was considered to be the mildest possible method of preparation and the method least likely to cause any changes during preparation. The following physicochemical parameters were obtained: Sedimentation constant, s20 = 3.1 S; diffusion constant, D20 = 1.25[middle dot]10-7 cm2/sec; intrinsic viscosity, [[eta]] = 7.0. From these values we were able to calculate a molecular weight of M = 178,000 and a hydrodynamically effective volume of Ve = 1.0 ml/g, indicating a hydration of about 30%. On this basis and on the assumption that the shape of the molecule approximates the shape of a prolate ellipsoid of revolution, the molecular length was calculated to be L = 1900 A and the diameter of maximal circumference, d = 17.5 A. A frequency distribution coefficient of [gamma] = 0.44 was calculated from the spread of the sedimentation patterns. It was found that hyaluronic acid satisfies the Huggins equation when the constant k' = 0.275. The sedimentation and diffusion characteristics of hyaluronic acid have been studied as a function of ionic strength. It was found that these properties are very sensitive to changes in ionic strength, with the dependence most marked as zero ionic strength is approached. However, the changes induced by varying the ionic strength are perfectly reversible. Changes in temperature had no effect within the range investigated. http://www.sciencedirect.com/science/article/B73G9-47DXTD1-1HJ/2/e1b36051e751b9b37d48c0b5e106d33b

1332. Vargova, M., Gajdova, M., and Jakubovsky, J. (1994). Estrogenic Effects of Some Environmental Chemicals. *22nd annual conference of the european teratology society and the 4th scientific meeting of the international federation of teratology societies, prague, czech republic, september 12-15, 1994. Teratology* 50: 35a.
Chem Codes: Chemical of Concern: PSM Rejection Code: ABSTRACT.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM MEETING ABSTRACT MEETING POSTER RAT HUMAN MODEL FOSMET MANCOZEB ATRAZINE FORMALDEHYDE ORGANOPHOSPHATE PESTICIDES HERBICIDES TERATOGENS REPRODUCTIVE TOXICITY MAMMARY CARCINOGENESIS POLLUTION HEALTH HAZARD
MESH HEADINGS: CONGRESSES

MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: STEROIDS
MESH HEADINGS: STEROLS
MESH HEADINGS: GENITALIA/PATHOLOGY
MESH HEADINGS: GENITALIA/PHYSIOPATHOLOGY
MESH HEADINGS: REPRODUCTION
MESH HEADINGS: FEMALE
MESH HEADINGS: GONADS
MESH HEADINGS: MALE
MESH HEADINGS: PLACENTA
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: ABNORMALITIES
MESH HEADINGS: ANIMAL
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: EMBRYOLOGY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
MESH HEADINGS: MURIDAE
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Sterols and Steroids
KEYWORDS: Reproductive System-Pathology
KEYWORDS: Endocrine System-Gonads and Placenta
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: Developmental Biology-Embryology-Experimental Teratology and Teratogenesis
KW - Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Hominidae
KEYWORDS: Muridae
LANGUAGE: eng

1333. Varro, T., Gelencser, Judit, and Somogyi, G (1987). Study of transport processes in soils and plants by microautoradiographic and radioabsorption methods. *Acta Biochimica et Biophysica Hungarica* 22: 31-43.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

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Database: CAPLUS
Accession Number: AN 1987:553462
Chemical Abstracts Number: CAN 107:153462
Section Code: 19-4
Section Title: Fertilizers, Soils, and Plant Nutrition
CA Section Cross-References: 4, 5
Document Type: Journal
Language: written in English.
Index Terms: Leaf (Safidon diffusion in); Plant tissue; Vegetable (agrochems. and lead and nutrient diffusion in); Fruit (agrochems. and nutrient diffusion in); Soils (ion diffusion in);

Root absorption (of nutrients, by vegetables); Plant (crop, agrochems. and lead and nutrient transport in); Biological transport (diffusion, of agrochem. and lead and nutrients, in plants) CAS Registry Numbers: 732-11-6 Role: PEP (Physical, engineering or chemical process), PROC (Process) (diffusion of, in fruit peels and leaves and vegetable skins); 7440-46-2 (Cesium); 7440-70-2 (Calcium) Role: PEP (Physical, engineering or chemical process), PROC (Process) (diffusion of, in soils); 57-50-1D (Sucrose) Role: BIOL (Biological study) (nutrient diffusion in plants and soils response to, complex formation in relation to); 7439-92-1 (Lead) Role: BIOL (Biological study) (transport of, in carrot root); 7440-42-8 (Boron) Role: BIOL (Biological study) (transport of, in carrot root and potato tuber); 12258-53-6 (Tetraborate); 14213-97-9 (Borate) Role: PROC (Process) (transport of, in carrot root and potato tuber); 7439-89-6 (Iron); 7439-96-5 (Manganese); 7440-09-7 (Potassium); 7440-23-5 (Sodium); 7440-48-4 (Cobalt); 7440-66-6 (Zinc); 14066-19-4 (Monohydrogen phosphate) Role: BIOL (Biological study) (transport of, in plant tissues and soils) The concn. profiles of Pb in carrot root and B in carrot root and potato tuber were detd. at various diffusion times by a microradiog. method. The order of magnitude of the diffusion coeff. of Pb ions and borate or tetraborate ions was 10-13 m2/s and 10-11 m2/s, resp. The effect of a complex-forming agent (oxidized product from sucrose) on the absorption of nutrients by plant samples was examd. also by a radioabsorption method. The effective diffusion coeffs. of Safidon for leaves, fruit peels and vegetable skins were detd. In soils, the effective diffusion of nutrients ranged 10-16-10-10 m2/s and was affected by soil structure and the complex-forming agent. The data about the transport processes in plants and soils may allow these processes to be controlled and influenced. [on SciFinder (R)] 0237-6261 transport/ process/ plant/ soil;/ nutrient/ absorption/ plant/ diffusion/ soil;/ lead/ diffusion/ carrot;/ complexing/ agent/ nutrient/ transport/ plant;/ Saphidon/ diffusion/ plant

1334. Varro, T., Somogyi, G., and Madi, I (1981). Study of transport processes in plants by radioabsorption and microradiographic methods. *Journal of Radioanalytical Chemistry* 67: 15-24.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS, FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1981:619344
Chemical Abstracts Number: CAN 95:219344
Section Code: 19-13
Section Title: Fertilizers, Soils, and Plant Nutrition
CA Section Cross-References: 9
Document Type: Journal
Language: written in English.
Index Terms: Biological transport (of ions and protecting agent, in plants, radioabsorption and microradiog. study of); Diffusion (of ions, in plants); Acacia; Apple; Beet; Carrot; Celery; Corn; Grape; Kohlrabi; Onion; Pansy; Parsley; Peach; Pear; Plum; Potato; Radish; Tomato (transport processes in); Plant (transport processes in, radioabsorption and microradiog. study of) CAS Registry Numbers: 732-11-6; 7439-89-6; 7439-92-1; 7440-23-5; 7440-46-2; 7440-66-6; 7440-70-2; 11129-12-7; 14265-44-2 Role: PROC (Process) (transport of, in plants) The passive transport processes in plants of 22Na+, 137Cs+, 45Ca2+, 65Zn2+, 59Fe3+ and 32PO43- and the plant-protecting agent Saphidon-14C were studied by a radioabsorption method. The parameters of the passive transport processes of 212Pb2+, borate, and tetraborate ions in plants were measured by quant. microradiog. methods with photoemulsion and solid state nuclear track detectors. Ion diffusion concn. profiles within the plants were detd. at various diffusion times and temps. The equation of linear diffusion combined with convection was used to det. the diffusion coeffs. characteristic of the transport processes. [on SciFinder (R)] 0022-4081 transport/ ion/ Saphidon/ plant

1335. Vashkevich, O. V. and Gankina, E. S (1990). Quantitative determination of organophosphorus pesticides by HPTLC with detection by enzyme inhibition. *Journal of Planar Chromatography--Modern TLC* 3: 354-6.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:137934
Chemical Abstracts Number: CAN 114:137934
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (phosphorus-contg., HPTLC detn., with enzyme inhibition detection); Chromatography (high-performance, of organophosphorus pesticides, with enzyme inhibition detection)
CAS Registry Numbers: 9013-79-0 (Esterase) Role: BIOL (Biological study) (1, inhibition of, in detection of organophosphorus pesticides by high-performance thin-layer chromatog.); 52-68-6 (Chlorophos); 60-51-5; 62-73-7; 121-75-5 (Malathion); 298-00-0 (Parathion methyl); 299-84-3; 333-41-5; 732-11-6 (Phthalophos); 2104-96-3 (Bromophos); 2310-17-0; 2540-82-1 (Anthio); 2636-26-2; 3383-96-8; 26087-47-8 (Ricid-P); 29232-93-7 (Actellic); 38527-91-2 (Etaphos); 40626-35-5 (Heterophos); 74548-80-4 (Aphos) Role: ANT (Analyte), ANST (Analytical study) (detn. of, by HPTLC, with enzyme inhibition detection) Organophosphorus pesticides (18) were detd. by HPTLC using inhibition of esterase-1 produced by Bacillus subtilis, 1-thionaphthyl acetate as esterase substrate and 2,2'-azo(1-naphthol, 8-chloro-3,6-disulfonic acid) 4,4'-diphenyl disulfide as indicator of SH groups. Ascending TLC was performed with the following eluents: 3:1 or 9:1 or 4:1 hexane-acetone; 6.6:3.4 benzene-acetone. Lowest limit of detection was 0.01 ng and the range of detection was 0.1-5 ng. [on SciFinder (R)] 0933-4173 HPTLC/ phosphate/ pesticide/ enzyme/ detection;/ chromatog/ thin/ layer/ pesticide/ enzyme/ inhibition

1336. Veintraub, F. P., Vylegzhanina, G. F., Nesterova, I. P., and Patrashku, F. I (1975). Residual amounts of organophosphate insecticides in plant products. *Environmental Quality and Safety, Supplement* 3: 180-2.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1976:492308
Chemical Abstracts Number: CAN 85:92308
Section Code: 17-2
Section Title: Foods
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Apple (phosphorus-contg. insecticides of); Pea; Potato; Sugar beet (syphos insecticide of)
CAS Registry Numbers: 122-14-5; 732-11-6; 2310-17-0; 8065-40-5; 22248-79-9 Role: BOC (Biological occurrence), BSU (Biological study, unclassified), BIOL (Biological study), OCCU (Occurrence) (of apples); 78-57-9 Role: BIOL (Biological study) (of peas and potatoes and sugar beets) Treatment of apples with phosalone [2310-17-0] gave residues only in the peel. Phthalophos [732-11-6] did penetrate the apple; the half-life was 10 days, and none was found in the pasteurized juice. Methylnitrophos [8065-40-5] and metathion [122-14-5] residues in apples were higher with lower air and fruit surface temp. and low sunlight intensity, and rainfall had little effect on residues. Gardona [22248-79-9] was lost rapidly from apples, 52% in 12 days. Residues were highest in the peel and absent in the seed chamber. Syphos [78-57-9] was not found in green peas or leaves and roots of sugar beets 50 days after applying to the seed. The tops of potatoes grown from seed treated with Syphos contained 0.08 mg/kg on the 56th day. No decrease in residue was found in storage of potatoes for 7 months. None of the residues exceeded USSR tolerances. [on SciFinder (R)] 0340-4714 phosphate/ insecticide/ food;/ apple/ phosphate/

insecticide;/ pea/ Syphos;/ sugar/ beet/ Syphos;/ potato/ Syphos;/ Syphos/ food

1337. Venkatesh, S., Reddy, G. D., Reddy, B. M., Ramesh, M., and Rao, A. V. (Antihyperglycemic Activity of Caralluma Attenuata. *Fitoterapia. 2003, apr; 74(3):274-9. [Fitoterapia]: Fitoterapia*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: Extracts of Caralluma attenuata are screened for their antihyperglycemic activity. Ethanol, chloroform and butanol extracts were tested on glucose loaded and alloxan-induced diabetic rats. In both tests, the butanol extract, at the oral dose of 250 mg/kg, has shown statistically significant and considerable antihyperglycemic activity.
MESH HEADINGS: Administration, Oral
MESH HEADINGS: Alloxan/diagnostic use
MESH HEADINGS: Animals
MESH HEADINGS: *Apocynaceae
MESH HEADINGS: Blood Glucose/drug effects
MESH HEADINGS: Diabetes Mellitus, Experimental/chemically induced/drug therapy
MESH HEADINGS: Glucose Tolerance Test
MESH HEADINGS: Hyperglycemia/drug therapy
MESH HEADINGS: Hypoglycemic Agents/administration &amp
MESH HEADINGS: dosage/*pharmacology/therapeutic use
MESH HEADINGS: Male
MESH HEADINGS: *Phytotherapy
MESH HEADINGS: Plant Extracts/administration &amp
MESH HEADINGS: dosage/*pharmacology/therapeutic use
MESH HEADINGS: Rats
MESH HEADINGS: Rats, Wistar
LANGUAGE: eng

1338. Verdi, L., Caldognetto, E., and Trotti, F. (Radon Mapping in South Tyrol: Comparison Between Two Different Procedures. *Radiat prot dosimetry. 2004; 111(4):439-43. [Radiation protection dosimetry]: Radiat Prot Dosimetry*.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: In this paper two different procedures for radon mapping have been compared on the same database referring to indoor radon records of South Tyrol. The first procedure is based on descriptive statistics applied to administrative units while the second one implies a more complicated statistical analysis applied to a regular grid: it involves floor level normalization of radon data, filling and smoothing algorithms for the territory cells.
MESH HEADINGS: Air Pollutants, Radioactive/*analysis
MESH HEADINGS: Air Pollution, Indoor/*analysis
MESH HEADINGS: Algorithms
MESH HEADINGS: Computer Simulation
MESH HEADINGS: Forecasting/methods
MESH HEADINGS: *Geographic Information Systems
MESH HEADINGS: Italy/epidemiology
MESH HEADINGS: Models, Statistical
MESH HEADINGS: Multivariate Analysis
MESH HEADINGS: Radiation Dosage
MESH HEADINGS: Radiation Monitoring/*methods
MESH HEADINGS: Radiometry/*methods
MESH HEADINGS: Radon/*analysis
MESH HEADINGS: Reproducibility of Results
MESH HEADINGS: Risk Assessment/*methods
MESH HEADINGS: Risk Factors
MESH HEADINGS: Sensitivity and Specificity
MESH HEADINGS: Topography, Medical/methods

LANGUAGE: eng

1339. Verdi, L., Weber, A., and Stoppa, G. (Indoor Radon Concentration Forecasting in South Tyrol. *Radiat prot dosimetry. 2004; 111(4):435-8. [Radiation protection dosimetry]: Radiat Prot Dosimetry*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: In this paper a modern statistical technique of multivariate analysis is applied to an indoor radon concentration data base. Several parameters are more or less significant in determining the radon concentration inside a building. The elaboration of the information available on South Tyrol makes it possible both to identify the statistically significant variables and to build up a statistical model that allows us to forecast the radon concentration in dwellings, when the values of the same variables involved are given. The results confirm the complexity of the phenomenon.
MESH HEADINGS: Air Pollutants, Radioactive/*analysis
MESH HEADINGS: Air Pollution, Indoor/*analysis
MESH HEADINGS: *Algorithms
MESH HEADINGS: Computer Simulation
MESH HEADINGS: Forecasting/methods
MESH HEADINGS: *Geographic Information Systems
MESH HEADINGS: Italy/epidemiology
MESH HEADINGS: Models, Statistical
MESH HEADINGS: Multivariate Analysis
MESH HEADINGS: Radiation Dosage
MESH HEADINGS: Radiation Monitoring/*methods
MESH HEADINGS: Radiometry/methods
MESH HEADINGS: Radon/*analysis
MESH HEADINGS: Risk Assessment/*methods
MESH HEADINGS: Risk Factors
MESH HEADINGS: Topography, Medical/methods
LANGUAGE: eng

1340. Verhaar, H. Jm, Van Leeuwen Cj, and Hermens, J. Lm (1992). Classifying Environmental Pollutants: Structure-Activity Relationships for Prediction of Aquatic Toxicity. *Chemosphere* 25: 471-491.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. In this paper a scheme is presented that makes it possible to classify a large number of organic pollutants into one of four classes, viz: (1) inert chemicals, (2) less inert chemicals, (3) reactive chemicals and (4) specifically acting chemicals. For chemicals that are thus classified as belonging to one of these four classes it is possible to calculate either an expected effect concentration (inert chemicals), such as the LC50, or an expected range of possible effect concentrations, from a compound's octanol/water partition coefficient (Log Kow). For chemicals that cannot be classified as belonging to one of the four classes no prediction can be made. This approach can be implemented to estimate aquatic effect concentrations, which can be used to derive preliminary environmental quality objectives, or for the prioritisation of chemicals for subsequent testing. Moreover, these estimates could be of great value in risk and hazard assessment. To our opinion, this approac
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: ECOLOGY
MESH HEADINGS: OCEANOGRAPHY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY

MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: CYBERNETICS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Biophysics-Biocybernetics (1972-)
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
LANGUAGE: eng

1341. Verhaar, Henk J. M., Van Leeuwen, Cees J., and Hermens, Joop L. M (1992). Classifying environmental pollutants. 1: structure-activity relationships for prediction of aquatic toxicity. *Chemosphere* 25: 471-91.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:646744
Chemical Abstracts Number: CAN 117:246744
Section Code: 4-3
Section Title: Toxicology
CA Section Cross-References: 61
Document Type: Journal
Language: written in English.
Index Terms: Alcohols; Aldehydes; Amines; Epoxides; Ethers; Ketones; Organic compounds; Phenols Role: BIOL (Biological study) (aquatic toxicity of, structure in relation to); Toxicity (of environmental pollutants, structure in relation to); Water pollution (structure-activity relationships for prediction of aquatic toxicity in relation to); Amines Role: BIOL (Biological study) (aryl, aquatic toxicity of, structure in relation to); Molecular structure-biological activity relationship (toxic, of environmental pollutants)
CAS Registry Numbers: 55-38-9 (Fenthion); 56-23-5 (Tetrachloromethane); 58-89-9 (Lindane); 60-29-7 (Diethylether); 60-57-1 (Dieldrin); 62-53-3 (Aniline); 64-17-5 (Ethanol); 66-25-1 (Hexanal); 67-56-1 (Methanol); 67-63-0 (2-Propanol); 67-64-1 (Acetone); 67-66-3 (Trichloromethane); 71-43-2 (Benzene); 71-55-6 (1,1,1-Trichloroethane); 75-07-0 (Ethanal); 75-09-2 (Dichloromethane); 75-34-3 (1,1-Dichloroethane); 75-56-9 (Propylene oxide); 75-65-0 (2-Methyl-2-propanol); 76-01-7 (Pentachloroethane); 78-84-2 (2-Methylpropanal); 78-87-5 (1,2-Dichloropropane); 78-88-6 (2,3-Dichloropropene); 78-95-5 (Chloroacetone); 79-00-5 (1,1,2-Trichloroethane); 79-01-6 (Trichloroethene); 79-06-1 (Acrylamide); 79-34-5 (1,1,2,2-Tetrachloroethane); 83-41-0 (2,3-Dimethylnitrobenzene); 83-42-1 (2-Chloro-6-nitrotoluene); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 87-61-6 (1,2,3-Trichlorobenzene); 87-68-3 (Hexachlorobutadiene); 88-72-2 (2-Nitrotoluene); 88-73-3 (2-Chloronitrobenzene); 88-74-4 (2-Nitroaniline); 89-59-8 (4-Chloro-2-nitrotoluene); 89-61-2 (2,5-Dichloronitrobenzene); 94-99-5 (2,4,a-Trichlorotoluene); 95-47-6 (o-Xylene); 95-50-1 (1,2-Dichlorobenzene); 95-51-2 (2-Chloroaniline); 95-53-4 (2-Methylaniline); 95-57-8 (2-Chlorophenol); 95-73-8 (2,4-Dichlorotoluene); 95-75-0 (3,4-Dichlorotoluene); 95-76-1 (3,4-Dichloroaniline); 95-82-9 (2,5-Dichloroaniline); 95-94-3 (1,2,4,5-Tetrachlorobenzene); 96-09-3 (Styrene oxide); 96-18-4 (1,2,3-Trichloropropane); 97-00-7 (1-Chloro-2,4-dinitrobenzene); 97-77-8 (Disulfiram); 97-96-1 (2-Ethylbutanal); 98-01-1 (2-Furaldehyde); 98-95-3 (Nitrobenzene); 99-08-1 (3-Nitrotoluene); 99-09-2 (3-Nitroaniline); 99-51-4; 99-65-0 (1,3-Dinitrobenzene); 99-99-0 (4-Nitrotoluene); 100-00-5 (4-Chloronitrobenzene); 100-01-6 (4-Nitroaniline); 100-11-8 (4-Nitrobenzylbromide); 100-44-7

(Benzylchloride); 100-50-5 (3-Cyclohexene-1-carboxaldehyde); 100-52-7 (Benzaldehyde); 106-42-3 (p-Xylene); 106-43-4 (4-Chlorotoluene); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-49-0 (4-Methylaniline); 106-88-7 (1,2-Epoxybutane); 106-89-8 (Epichlorohydrin); 107-05-1 (Allylchloride); 107-06-2 (1,2-Dichloroethane); 107-18-6 (2-Propen-1-ol); 107-21-1 (1,2-Ethanediol); 108-38-3; 108-41-8 (3-Chlorotoluene); 108-42-9 (3-Chloroaniline); 108-43-0 (3-Chlorophenol); 108-44-1 (3-Methylaniline); 108-70-3 (1,3,5-Trichlorobenzene); 108-88-3 (Toluene); 108-90-7 (Monochlorobenzene); 108-95-2 (Phenol); 109-59-1 (2-Isopropoxyethanol); 109-69-3 (1-Chlorobutane); 109-86-4 (2-Methoxyethanol); 110-62-3 (Pentanal); 110-80-5 (2-Ethoxyethanol); 111-44-4 (2,2'-Dichlorodiethylether); 111-46-6 (Diethylene glycol); 111-71-7 (Heptanal); 111-76-2 (2-Butoxyethanol); 112-27-6 (Triethylene glycol); 112-31-2 (Decanal); 112-34-5 (2-(2-Butoxyethoxy)ethanol); 112-56-1 (Lethane 384); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-73-3 (3-Chloronitrobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 123-38-6 (Propanal); 123-72-8 (Butanal); 124-13-0 (Octanal); 127-18-4 (Tetrachloroethene); 136-77-6 (4-Hexylresorcinol); 140-88-5 (Ethylacrylate); 142-28-9 (1,3-Dichloropropane); 148-24-3 (8-Hydroxyquinoline); 298-00-0 (Methylparathion); 299-84-3 (Ronnel); 500-28-7 (Chlorothion); 541-73-1 (1,3-Dichlorobenzene); 542-75-6 (1,3-Dichloropropene); 554-00-7 (2,4-Dichloroaniline); 556-52-5 (Glycidol); 563-52-0 (3-Chloro-1-butene); 578-54-1 (2-Ethylaniline); 584-02-1 (3-Pentanol); 587-02-0 (3-Ethylaniline); 589-16-2 (4-Ethylaniline); 590-86-3 (3-Methylbutanal); 591-35-5 (3,5-Dichlorophenol); 591-97-9 (1-Chloro-2-butene); 608-93-5 (Pentachlorobenzene); 611-06-3 (2,4-Dichloronitrobenzene); 618-62-2 (3,5-Dichloronitrobenzene); 626-43-7 (3,5-Dichloroaniline); 634-66-2 (1,2,3,4-Tetrachlorobenzene); 634-67-3 (2,3,4-Trichloroaniline); 634-83-3 (2,3,4,5-Tetrachloroaniline); 634-90-2 (1,2,3,5-Tetrachlorobenzene); 636-30-6 (2,4,5-Trichloroaniline); 640-15-3 (Thiometon); 640-19-7 (Fluoro-acetamide); 732-11-6 (Phosmet); 764-41-0 (1,4-Dichloro-2-butene); 950-37-8 (Methidathion); 959-98-8 (a-Endosulfan); 1436-34-6 (1,2-Epoxyhexane); 1464-53-5 (1,3-Butadiene diepoxide); 2043-61-0 (Cyclohexane-carboxaldehyde); 2104-96-3 (Bromophos); 2404-44-6 (1,2-Epoxydecane); 2426-07-5 (1,2,7,8-Diepoxy octane); 2463-84-5 (Dicapthon); 2597-03-7 (Phenthoate); 2636-26-2 (Cyanophos); 2719-42-8; 2855-19-8 (1,2-Epoxydodecane); 2984-50-1 (1,2-Epoxyoctane); 3070-16-4 (Fenthion-S2145); 3132-64-7 (Epibromohydrin); 3209-22-1; 4170-30-3 (2-Butenal); 6639-30-1; 14088-71-2 (Proclonol); 18181-70-9 (Iodofenphos); 29232-93-7 (Pyrimiphos-methyl); 33576-92-0 (SV 5); 38260-54-7; 52918-63-5 (Decamethrin); 114012-04-3 (Methylisocyanothion) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (aquatic toxicity of, structure-activity relationship for prediction of) A scheme is presented that makes it possible to classify a large no. of org. pollutants into one of four classes, viz: (1) inert chems., (2) less inert chems., (3) reactive chems., and (4) specifically acting chems. For chems. that are thus classified as belonging to one of these four classes, it is possible to calc. either an expected effect concn. (inert chems.), such as the LC50, or an expected range of possible effect concns., from a compd.'s octanol/water partition coeff. (Log Kow). For chems. that cannot be classified as belonging to one of these four classes, no prediction can be made. This approach can be implemented to est. aquatic effect concns., which can be used to derive preliminary environmental quality objectives, or for the prioritization of chems. for subsequent testing. Moreover, these ests. could be of great value in risk and hazard assessment. This approach represents the current state-of-the-art in estn. methods for aquatic toxicol. [on SciFinder (R)] 0045-6535 aquatic/ toxicity/ xenobiotic

1342. Vigot, R. and Batini, C. (Purkinje Cell Inhibitory Responses to 3-Appa (3-Aminopropylphosphinic Acid) in Rat Cerebellar Slices. *Neurosci res. 1999, aug; 34(3):141-7. [Neuroscience research]: Neurosci Res.*
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ABSTRACT: 3-APPA is considered to be a GABA(B) agonist more potent than baclofen. We report here the results obtained by applying this agonist to Purkinje cells (PCs) recorded in current clamp mode on cerebellar slices. The responses were compared to those obtained with other GABA agonists and antagonists. The drugs were delivered either in the perfusion solution or by pressure to the molecular layer near the recorded cell. When applied to the PCs either in the bathing medium or by pressure, 3-APPA evoked a potent inhibitory response which was however

different from that obtained with baclofen. The response was complex and similar to that evoked by application of GABA, the endogenous neurotransmitter. In fact it showed: (1) very sensitive dose-response not affected by TTX in the bath; (2) an equilibrium potential compatible with Cl- channel conductance; (3) a massive reduction with the competitive GABA(A) antagonist bicuculline; (4) a small reduction, if any, with the potent competitive GABA(B) antagonist CGP55845A; (5) persistence of the responses under 4-AP (4-aminopyridine), the potassium channel blocker, and inhibition of the 4-AP-induced calcium bursts of spikes. The conclusion was reached that the inhibitory response of PCs to 3-APPA is induced, like GABA inhibition, by binding to both GABA(A) and GABA(B) postsynaptic receptors.
MESH HEADINGS: 4-Aminopyridine/pharmacology
MESH HEADINGS: 6-Cyano-7-nitroquinoxaline-2,3-dione/pharmacology
MESH HEADINGS: Animals
MESH HEADINGS: Baclofen/pharmacology
MESH HEADINGS: Bicuculline/pharmacology
MESH HEADINGS: Cerebellum/cytology/*drug effects/physiology
MESH HEADINGS: Dose-Response Relationship, Drug
MESH HEADINGS: Female
MESH HEADINGS: GABA Agonists/*pharmacology
MESH HEADINGS: GABA Antagonists/pharmacology
MESH HEADINGS: Male
MESH HEADINGS: Membrane Potentials/drug effects
MESH HEADINGS: Organophosphorus Compounds/*pharmacology
MESH HEADINGS: Phosphinic Acids/pharmacology
MESH HEADINGS: Propanolamines/pharmacology
MESH HEADINGS: Purkinje Cells/*drug effects/physiology
MESH HEADINGS: Rats
MESH HEADINGS: Rats, Sprague-Dawley
MESH HEADINGS: Receptors, GABA-B/agonists/antagonists &amp
MESH HEADINGS: inhibitors
MESH HEADINGS: Tetrodotoxin/pharmacology
MESH HEADINGS: gamma-Aminobutyric Acid/pharmacology
LANGUAGE: eng

1343. Vinardell, M. P., Vives, M. A., and Unio, J. (1996). Biochemical Parameters After Repited Oral Administration of Fosdan in Rats. *Toxicol.Lett.* 88: 29-30.
Chem Codes: Chemical of Concern: PSM Rejection Code: ABSTRACT.

1344. Vlckova, V. (1991). Mutagenic Activity of Fosmet and a Mixture of Solvents Applied to Yeast Saccharomyces Cerevisiae. *Acta fac rerum nat univ comenianae genet* 0: 13-18.
Chem Codes: Chemical of Concern: PSM Rejection Code: YEAST.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. When investigating a toxic and potentially mutagenic effect of fosmet, an active component of organophosphate insecticide of Decemtion EK-20, and a mixture of solvents on eukaryotic microorganisms Saccharomyces cerevisiae D7 the following could be found: 1. The toxic effect of both fosmet and the mixture of solvents rose with the increase of the dose. 2. Fosmet exhibited an increased frequency of all genetic changes investigated, i.e. of mitotic crossing-over, mitotic gene conversion and reverse mutations. The frequency of the gene reverse mutations was increased in the most distinct way (7-fold). 3. At the highest concentration of the solvent mixture used, a slight increase of the frequency in all genetic changes investigated could be stated.
MESH HEADINGS: PLANTS/CYTOLOGY
MESH HEADINGS: GENETICS
MESH HEADINGS: CYTOGENETICS
MESH HEADINGS: PLANTS/CYTOLOGY
MESH HEADINGS: PLANTS/GENETICS
MESH HEADINGS: BIOCHEMISTRY

MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ASCOMYCOTA
KEYWORDS: Cytology and Cytochemistry-Plant
KEYWORDS: Genetics and Cytogenetics-General
KEYWORDS: Genetics and Cytogenetics-Plant
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Ascomycetes
LANGUAGE: eng

1345. Vlckova, V., Miadokova, E., Podstavkova, S., and Vlcek, D (1993). Mutagenic activity of phosmet, the active component of the organophosphorus insecticide Decemtione EK 20 in Salmonella and Saccharomyces assays. *Mutation Research Letters* 302: 153-6.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA, YEAST.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1993:643378
Chemical Abstracts Number: CAN 119:243378
Section Code: 4-6
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Mutagens (phosmet as, in Saccharomyces cerevisiae and Salmonella typhimurium); Saccharomyces cerevisiae; Salmonella typhimurium (phosmet-induced mutation in); Mutation (frameshift, from phosmet, in Saccharomyces cerevisiae and Salmonella typhimurium); Mutation (reversion, from phosmet, in Saccharomyces cerevisiae and Salmonella typhimurium); Mutation (substitution, from phosmet, in Saccharomyces cerevisiae and Salmonella typhimurium)
CAS Registry Numbers: 732-11-6 (Decemthion EK 20) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (mutagenicity of, in Saccharomyces cerevisiae and Salmonella typhimurium) Phosmet, the active component of the organophosphorus insecticide Decemtione EK 20, was shown to be mutagenic in the std. Ames Salmonella/mammalian microsome assay in the absence and presence of metabolic activation. It appears to be a direct mutagen inducing base substitution mutations (TA100) as well as a weak frameshift mutagen (TA97). This compd. was genotoxic in the Saccharomyces cerevisiae D7 strain. It significantly increased reverse mutation, mitotic crossing-over and slightly, but not significantly, increased gene conversion at the highest concn. used. [on SciFinder (R)] 0165-7992 Decemtione/ EK/ 20/ mutagenicity;/ phosmet/ mutagen

1346. Vogel, Manfred and Heinz, Fritz (1981). Purification and characterisation of the cyclic amp-dependent protein kinase, the C- and the R-protein from bovine liver. *Biochimica et Biophysica Acta (BBA) - Protein Structure* 670: 47-55.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

A cyclic AMP-dependent protein kinase, its regulatory (R) and catalytic (C) protein were isolated from bovine liver. The cyclic AMP-dependent protein kinase showed two protein bands on SDS-polyacrylamide gel electrophoresis with molecular weights of 54 000 and 40 000. They correspond to the data for the separately isolated R- and C-protein. The molecular weight of the holoenzyme ranged from 172 000-179 000, depending on the estimation method. The molecular

weight of the R-protein ranged from 97 000-98 000. This, and the results of the SDS-polyacrylamide gel electrophoresis, demonstrates a dimeric structure. The frictional ratios (f/f0) of 1.67-1.7 for the holoenzyme and 1.9 for the R-protein correspond to highly asymmetric shapes. Assuming a prolate form, the axial ratios are 13-14 and 17, respectively. The C-protein is globular (f/f0 1.1-1.26, axial ratio 3-5). The seondary structure with 35% [alpha]-helix, 19% [beta]-sheet and 49% aperiodic form of the holoenzyme is similar to the R-protein with 35, 19 and 46%, respectively. The C-protein contains 29% [alpha]-helix, 21% [beta]-sheet and 50% aperiodic form. The dimeric R-protein binds 4 mol cyclic AMP and can be phosphorylated in the presence of the C-protein. An absorption coefficient, A280nm1.0%, of 5.4 was calculated for the R-protein and of 13.6 for C-protein. The data for C-protein, e.g., molecular weight, heterogeneity in isoelectrofocusing, phosphate content, etc., are in good agreement with those found by Sudgen, P.H. and Corbin, J.D. (1976) Biochem. J. 159, 423-437. Protein kinase/ Cyclic AMP/ Regulatory protein/ Catalytic protein/ Secondary structure/ (Bovine liver)
http://www.sciencedirect.com/science/article/B73GJ-47T2150-N4/2/c3c84920fe1d8239fc164a53d4b1d2e8

1347. Vogt, R. D., Seip, H. M., Larssen, T., Zhao, D., Xiang, R., Xiao, J., Luo, J., and Zhao, Y. (Potential Acidifying Capacity of Deposition Experiences From Regions With High Nh4+ and Dry Deposition in China. *Sci total environ. 2006, aug 15; 367(1):394-404. [The science of the total environment]: Sci Total Environ.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: Acid rain may cause soil acidification possibly leading to indirect forest damage. Assessment of acidification potential of atmospheric deposition is problematic where dry and occult deposition is significant. Furthermore, uncertainty is enhanced where a substantial part of the potential acidity is represented by deposition of ammonium (NH(4)(+)) since the degree of assimilation and nitrification is not readily available. Estimates of dry deposition based on deposition velocity are highly uncertain and the models need to be verified or calibrated by field measurements of total deposition. Total deposition may be monitored under the forest canopy. The main problem with this approach is the unknown influence of internal bio-cycling. Moreover, bio-cycling may neutralize much of the acidity by leaching of mainly K(+). When the water percolates down into the rooting zone this K(+) is assimilated again and acidity is regenerated. Most monitoring stations only measure deposition. Lacking measurements of output flux of both NH(4)(+) and NO(3)(-) from the soil one cannot assess current net N transformation rates. Assumptions regarding the fate of ammonium in the soil have strong influence on the estimated acid load. Assuming that all the NH(4)(+) is nitrified may lead to an overestimation of the acidifying potential. In parts of the world where dry deposition and ammonium are important special consideration of these factors must be made when assessing the acidification potential of total atmospheric loading. In China dry and occult deposition is considerable and often greater than wet deposition. Furthermore, the main part of the deposited N is in its reduced state (NH(4)(+)). The IMPACTS project has monitored the water chemistry as it moves through watersheds at 5 sites in China. This paper dwells at two important findings in this study. 1) Potassium leached from the canopy by acid rain is assimilated again upon entering the mineral soil. 2) Nitrification apparently mainly takes place in forest floor (H- and O-) horizon as NH(4)(+) that escapes this horizon is efficiently assimilated in the A-horizon. This suggests that the potential acidification capacity of the deposition may be found in the throughfall and forest floor solution by treating K(+) and NH(4)(+), respectively, as acid cations in a base neutralization capacity (BNC) calculation.
MESH HEADINGS: Acid Rain/*analysis
MESH HEADINGS: China
MESH HEADINGS: *Environmental Monitoring
MESH HEADINGS: Hydrogen-Ion Concentration
MESH HEADINGS: Quaternary Ammonium Compounds/*analysis
MESH HEADINGS: Soil Pollutants/*analysis
LANGUAGE: eng

1348. Volmer, D., Preiss, A., Levsen, K., and Wuensch, G (1993). Thermospray mass spectral studies of pesticides. Temperature and salt concentration effects on the ion abundances in thermospray mass spectra. *Journal of Chromatography* 647: 235-59.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1994:2683
Chemical Abstracts Number: CAN 120:2683
Section Code: 5-1
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, by thermospray mass spectrometry, temp. and salt concn. effects on ion abundances in); Mass spectrometry (thermospray-ionization, of pesticides, temp. and salt concn. effects on ion abundances in)
CAS Registry Numbers: 60-51-5; 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 85-00-7; 101-21-3 (Chlorpropham); 101-42-8 (Fenuron); 126-22-7 (Butonate); 298-02-2 (Phorate); 298-04-4 (Disulfoton); 300-76-5 (Naled); 732-11-6; 1563-66-2 (Carbofuran); 1912-24-9 (Atrazine); 2642-71-9 (Azinphos-ethyl); 3337-71-1 (Asulam); 4685-14-7 (Paraquat); 5902-51-2 (Terbacil); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 21725-46-2 (Cyanazine); 23135-22-0 (Oxamyl); 34123-59-6 (Isoproturon); 51249-05-9 Role: PRP (Properties) (thermospray mass spectrometry of, ion abundances in) The dependence of the ion abundances in the thermospray (TSP) mass spectra of several pesticides, including anilides, carbamates, N-heterocyclic and organophosphorus compds. and phenylureas on the vaporizer and the gas-phase temps. and under collision-activated dissocn. conditions was investigated. The results clearly demonstrate that fragmentation in the TSP mass spectra of the investigated pesticides was mainly caused by gas- or liq.-phase chem. dissocn. reactions of neutral analyte mols. or, in some instances, of the quasi-mol. ions in the ion source or the vaporizer probe, probably induced by solvent or buffer ions which can be described by well defined mechanisms. A linear relationship was obsd. for most of those pesticides which showed combinations of the two quasi-mol. ions $[M+H]^+$ and $[M+NH_4]^+$, when the logarithm of the ion abundance ratio for the $[M+H]^+$ ion relative to the $[M+NH_4]^+$ ion was plotted against the reciprocal of the abs. temp. of the gas phase. It is shown that this dependence can be used to generate TSP mass spectra with mainly one quasi-mol. ion. This may be of value for selected-ion monitoring expts., because the total ion current (i.e., the sum of the $[M + H]^+$ and $[M + NH_4]^+$ ions) is less dependent on the gas-phase temp. than the ion currents of the individual quasi-mol. ions. It was found that addnl. adduct ions beside these quasi-mol. ions could be obsd. in the spectra of several pesticides for which the formation was limited to low gas-phase temps. In addn., the results for the investigated quaternary ammonium compds. clearly show that the addn. of a volatile buffer salt to the mobile phase induces chem. reactions in the gas phase which have a strong influence on the ion abundances. However, addn. of buffer salt was necessary to obtain intense signals although the compds. are already completely dissocd. in the aq. solvent and fragmentation was enhanced as the buffer concn. was raised. [on SciFinder (R)] 0021-9673 pesticide/ detn/ thermospray/ mass/ spectrometry

1349. Volmer, Dietrich, Levsen, Karsten, and Engewald, Werner (1994). Analysis of polar pesticides in aqueous samples by combined online trace enrichment and thermospray liquid chromatography-mass spectrometry. *Vom Wasser* 82: 335-64.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1995:14469
Chemical Abstracts Number: CAN 122:114385

Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (HPLC combined with; thermospray ionization in polar pesticide detn. in drinking water by HPLC-mass spectrometry); Pesticides (thermospray ionization in polar pesticide detn. in drinking water by HPLC-mass spectrometry); Chromatography (high-performance, mass spectrometry combined with; thermospray ionization in polar pesticide detn. in drinking water by HPLC-mass spectrometry)
CAS Registry Numbers: 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (thermospray ionization in polar pesticide detn. in drinking water by HPLC-mass spectrometry); 52-68-6 (Trichlorfon); 58-08-2 (Caffeine); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 93-71-0 (Allidochlor); 101-05-3 (Anilazine); 101-21-3 (Chloropropham); 101-27-9 (Barban); 101-42-8 (Fenuron); 114-26-1 (Propoxur); 115-90-2 (Fensulfothion); 116-06-3 (Aldicarb); 122-14-5 (Fenitrothion); 122-34-9 (Simazin); 122-42-9 (Propham); 126-22-7 (Butonate); 139-40-2 (Propazine); 150-50-5 (Merphos); 150-68-5 (Monuron); 298-00-0 (Parathion-methyl); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 314-40-9 (Bromacil); 330-54-1 (Diuron); 330-55-2 (Linuron); 470-90-6 (Chlorfenvinphos); 535-89-7 (Crimidine); 709-98-8 (Propanil); 732-11-6 (Phosmet); 759-94-4 (EPTC); 834-12-8 (Ametryn); 886-50-0 (Terbutryn); 919-86-8 (Demeton-S-methyl); 1007-28-9 (Deisopropylatrazine); 1014-69-3 (Desmetryn); 1114-71-2 (Pebulate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1698-60-8 (Chloridazon); 1746-81-2 (Monolinuron); 1809-19-4 (Dibutylphosphite); 1912-24-9 (Atrazine); 1918-16-7 (Propachlor); 1918-18-9 (SWEP); 1929-77-7 (Vernolate); 1982-47-4 (Chloroxuron); 2032-65-7 (Methiocarb); 2164-17-2 (Fluometuron); 2303-17-5 (Triallate); 2307-68-8 (Pentanochlor); 2310-17-0 (Phosalone); 2595-54-2 (Mecarbam); 2631-37-0 (Promecarb); 2642-71-9 (Azinphos-ethyl); 3060-89-7 (Metobromuron); 3337-71-1 (Asulam); 5234-68-4 (Carboxin); 5902-51-2 (Terbacil); 5915-41-3 (Terbutylazine); 6190-65-4 (Desethylatrazine); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 10265-92-6 (Methamidophos); 13360-45-7; 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14214-32-5 (Difenoxuron); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 16118-49-3 (Carbetamide); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18691-97-9 (Methabenzthiazuron); 19937-59-8 (Metoxuron); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 26259-45-0 (Secbumeton); 28730-17-8 (Methfuroxam); 30979-48-7 (Isocarbamide); 34123-59-6 (Isoproturon); 34643-46-4 (Prothiophos); 35256-85-0 (Tebutam); 39196-18-4 (Thiofanox); 40487-42-1 (Pendimethalin); 41394-05-2 (Metamitron); 43121-43-3 (Triadimefon); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51249-05-9 (Buminafos); 52888-80-9 (Prosulfocarb); 55512-33-9 (Pyridate); 57837-19-1 (Metalaxyl); 59669-26-0 (Thiodicarb); 67129-08-2 (Metazachlor); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 74223-64-6 (Metsulfuron-methyl); 107534-96-3 (Tebuconazole) Role: ANT (Analyte), ANST (Analytical study) (thermospray ionization in polar pesticide detn. in drinking water by HPLC-mass spectrometry) The suitability of thermospray ionization for the HPLC-mass spectrometry (MS) detn. of a large no. of pesticides having a wide range of structures and polarities in aq. environmental samples was evaluated. The method described includes 108 pesticides and some of their degrdn. products. Evaluation of important exptl. parameters affecting the HPLC-MS detn. of relevant pesticides and trace enrichment from aq. samples is described. Preconcn. is achieved by either off-line or online solid-phase extn. with subsequent HPLC sepn. Verification of the limit of German and EU Drinking Water Guidelines (100 ng/L) for all investigated compds. and detection limits in the low ng/L range are obtained. The method was evaluated with respect to its selectivity, detection limit, linearity, precision, and ruggedness. [on SciFinder (R)] 0083-6915
pesticide/ drinking/ water/ HPLC/ mass/ spectrometry;/ chromatog/ mass/ spectrometry/ pesticide/ detn/ water;/ thermospray/ ionization/ pesticide/ HPLC/ mass/ spectrometry

1350. Volmer, Dietrich, Levsen, Karsten, and Wuensch, Gerold (1994). Thermospray liquid chromatographic-

mass spectrometric multi-residue determination of 128 polar pesticides in aqueous environmental samples. *Journal of Chromatography, A* 660: 231-48.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 1994:199970
Chemical Abstracts Number: CAN 120:199970
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 80
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in water, by thermospray liq. chromatog.-mass spectrometry); Quaternary ammonium compounds Role: ANT (Analyte), ANST (Analytical study) (alkylbenzyldimethyl, chlorides, detn. of, in water, by thermospray liq. chromatog.-mass spectrometry)
CAS Registry Numbers: 7732-18-5 (Water) Role: ANST (Analytical study) (detn. of pesticides in, by thermospray liq. chromatog.-mass spectrometry); 52-68-6 (Trichlorfon); 58-08-2 (Caffeine); 60-51-5 (Dimethoate); 61-82-5 (Amitrol); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 75-99-0 (Dalapon); 76-03-9 (TCA); 85-00-7 (Diquat); 93-65-2 (Mecoprop); 93-71-0 (Allidochlor); 93-72-1 (Silvex); 93-76-5 (2,4,5-T); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 94-82-6 (2,4-DB); 101-05-3 (Anilazine); 101-21-3 (Chloropropham); 101-27-9 (Barban); 101-42-8 (Fenuron); 114-26-1 (Propoxur); 116-06-3 (Aldicarb); 120-36-5 (Dichlorprop); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-42-9 (Propham); 126-22-7 (Butonate); 133-90-4 (Chloramben); 139-40-2 (Propazine); 150-50-5 (Merphos); 150-68-5 (Monuron); 298-00-0 (Parathion-methyl); 298-04-4 (Disulfoton); 300-76-5 (Naled); 301-12-2 (Oxydemeton-methyl); 314-40-9 (Bromacil); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinone); 470-90-6 (Chlorphenvinphos); 535-89-7 (Crimidine); 709-98-8 (Propanil); 732-11-6 (Phosmet); 834-12-8 (Ametryn); 886-50-0 (Terbutryn); 919-86-8 (Demeton-S-methyl); 999-81-5 (Chlormequat); 1007-28-9; 1014-69-3 (Desmetryn); 1563-66-2 (Carbofuran); 1610-17-9 (Atraton); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1698-60-8 (Chloridazon); 1746-81-2 (Monolinuron); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-16-7 (Propachlor); 1982-47-4 (Chloroxuron); 2032-65-7 (Methiocarb); 2164-17-2 (Fluometuron); 2303-17-5 (Triallate); 2307-68-8 (Pentanochlor); 2310-17-0 (Phosalone); 2595-54-2 (Mecarbam); 2631-37-0 (Promecarb); 2642-71-9 (Azinphos-ethyl); 3060-89-7 (Metobromuron); 3337-71-1 (Asulam); 3813-05-6 (Benazolin); 4685-14-7 (Paraquat); 5902-51-2 (Terbacil); 5915-41-3 (Terbutylazine); 6190-65-4; 6923-22-4 (Monocrotophos); 7286-69-3 (Sebuthylazine); 7287-19-6 (Prometryn); 7287-36-7 (Monalide); 8065-48-3 (Demeton); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13360-45-7 (Chlorobromuron); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14214-32-5 (Difenoxuron); 14437-20-8 (Chlorfenprop); 15263-53-3 (Cartap); 15545-48-9 (Chlorotoluron); 15972-60-8 (Alachlor); 16118-49-3 (Carbetamide); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18691-97-9 (Methabenzthiazuron); 19937-59-8 (Metoxuron); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23184-66-9 (Butachlor); 26259-45-0 (Secbumeton); 28730-17-8 (Methfuroxam); 29692-55-5 (Naphthyl acetate); 30979-48-7 (Isocarbamide); 34123-59-6 (Isoproturon); 34643-46-4 (Prothiofos); 40487-42-1 (Pendimethalin); 41394-05-2 (Metamitron); 42576-02-3 (Bifenox); 43121-43-3 (Triadimefon); 50563-36-5 (Dimethachlor); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51249-05-9 (Buminafos); 52888-80-9 (Prosulfocarb); 57837-19-1 (Metalaxyl); 59669-26-0 (Thiodicarb); 63333-63-1 (Triazinone); 67129-08-2 (Metazachlor); 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 67915-31-5 (Terconazole); 69806-42-4 (Haloxyfop-ethyl); 69806-50-4 (Fluazifop-butyl); 74223-64-6 (Metsulfuron-methyl); 81412-43-3 (Tridemorph); 91315-15-0 (Aldimorph) Role: ANT (Analyte), ANST (Analytical study) (detn. of, in water, by thermospray liq. chromatog.-mass spectrometry) Thermospray (TSP) ionization was evaluated with respect to its suitability in the LC-MS detn. of a broad range of pesticides. The sensitivity and the selectivity of this method for the detn. of 128 pesticides having a wide range of structures and polarities were

investigated. An LC sepn. in combination with postcolumn addn. of a volatile salt soln. was developed, which permits the anal. of 95 pesticides with a single LC-MS method using reversed-phase gradient elution. The retention data and TSP mass spectra of these compds. are presented. The advantages of TSP postcolumn techniques in comparison with conventional systems are discussed. The application of this method to the anal. of an environmental sample (river water) spiked with 8 phenylureas is demonstrated. The method was evaluated with respect to detection limit, linearity and reproducibility. In addn., a simple method for enhancing the structural information from TSP spectra is reported, which makes use of specific instabilities found with many pesticides. As an example, possibilities for the confirmatory anal. of carbamates are described. [on SciFinder (R)] 0021-9673 thermospray/ liq/ chromatog/ pesticide/ water;/ liq/ chromatog/ mass/ spectrometry/ pesticide

1351. Von Ohe, Peter C., Kuehne, Ralph, Ebert, Ralf-Uwe, Altenburger, Rolf, Liess, Matthias, and Schueuermann, Gerrit (2005). Structural Alerts-A New Classification Model to Discriminate Excess Toxicity from Narcotic Effect Levels of Organic Compounds in the Acute Daphnid Assay. *Chemical Research in Toxicology* 18: 536-555.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

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Database: CAPLUS
Accession Number: AN 2005:148201
Chemical Abstracts Number: CAN 142:331010
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Daphnia magna; Narcotics; Pesticides; QSAR; Simulation and Modeling; Toxicity (structural alerts-new classification model to discriminate excess toxicity from narcotic effect levels of org. compds. in acute daphnid assay); Organic compounds Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (structural alerts-new classification model to discriminate excess toxicity from narcotic effect levels of org. compds. in acute daphnid assay)
CAS Registry Numbers: 50-29-3 (DDT); 51-28-5 (2,4-Dinitrophenol); 52-68-6; 55-38-9 (Fenthion); 55-63-0 (Nitroglycerine); 56-23-5 (Tetrachloromethane); 56-38-2 (Parathion); 58-14-0 (Pyrimethamine); 58-89-9 (Lindane); 58-90-2 (2,3,4,6-Tetrachlorophenol); 59-06-3 (Ethopabate); 59-50-7 (4-Chloro-3-methylphenol); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-53-3 (Aniline); 62-55-5 (Thioacetamide); 62-56-6 (Thiourea); 62-73-7 (Dichlorovos); 63-25-2 (Carbaryl); 64-17-5 (Ethanol); 67-64-1 (Acetone); 67-66-3 (Trichloromethane); 67-72-1 (Hexachloroethane); 68-12-2 (Dimethylformamide); 71-23-8 (1-Propanol); 71-43-2 (Benzene); 72-20-8 (Endrin); 72-55-9 (DDE); 74-83-9 (Methyl bromide); 75-05-8 (Acetonitrile); 75-07-0 (Acetaldehyde); 75-08-1 (Ethyl mercaptan); 75-09-2 (Dichloromethane); 75-15-0 (Carbon disulfide); 75-21-8 (Ethylene oxide); 75-25-2 (Bromoform); 75-35-4 (1,1-Dichloroethene); 76-01-7 (Pentachloroethane); 77-47-4 (Hexachlorocyclopentadiene); 78-59-1 (Isophorone); 78-83-1 (2-Methyl-1-propanol); 78-87-5 (1,2-Dichloropropane); 78-99-9 (1,1-Dichloropropane); 79-00-5 (1,1,2-Trichloroethane); 79-01-6 (Trichloroethene); 79-06-1 (Acrylamide); 79-09-4 (Propionic acid); 79-34-5 (1,1,2,2-Tetrachloroethane); 82-71-3 (2,4,6-Trinitro-1,3-benzenediol); 83-41-0 (1,2-Dimethyl-3-nitrobenzene); 83-42-1 (2-Chloro-6-nitrotoluene); 84-66-2 (Diethyl phthalate); 84-74-2 (Dibutyl phthalate); 85-01-8 (Phenanthrene); 85-68-7 (Butyl benzyl phthalate); 86-30-6 (N-Nitrosodiphenylamine); 86-74-8 (Carbazole); 87-86-5 (Pentachlorophenol); 88-72-2 (1-Methyl-2-nitrobenzene); 88-73-3 (1-Chloro-2-nitrobenzene); 88-85-7 (2-(1-Methylpropyl)-4,6-dinitrophenol); 88-89-1 (2,4,6-Trinitrophenol); 89-59-8 (4-Chloro-2-nitrotoluene); 89-61-2 (1,4-Dichloro-2-nitrobenzene); 90-02-8 (Salicylaldehyde); 90-04-0 (o-Aminoanisole); 90-05-1 (2-Methoxyphenol); 90-13-1 (1-Chloronaphthalene); 90-43-7 (2-Phenylphenol); 91-20-3 (Naphthalene); 91-22-5 (Quinoline); 91-64-5 (Coumarin); 91-94-1 (3,3'-Dichlorobenzidine); 92-52-4 (Biphenyl); 92-69-3 (4-Phenylphenol); 94-75-7 (2,4-Dichlorophenoxyacetic acid); 95-15-8 (Benzo[b]thiophene); 95-47-6 (o-Xylene); 95-48-7 (o-Cresol); 95-50-1 (1,2-Dichlorobenzene); 95-

51-2 (2-Chloroaniline); 95-53-4; 95-57-8 (2-Chlorophenol); 95-76-1 (3,4-Dichlorobenzenamine); 95-82-9 (2,5-Dichloroaniline); 95-95-4 (2,4,5-Trichlorophenol); 96-09-3 (1,2-Epoxyethylbenzene); 96-18-4 (1,2,3-Trichloropropane); 96-45-7 (Ethylene thiourea); 97-00-7 (1-Chloro-2,4-dinitrobenzene); 97-74-5; 97-77-8 (Bis(diethylthiocarbamoyl) disulfide); 98-82-8 (Cumene); 98-95-3 (Nitrobenzene); 99-08-1 (1-Methyl-3-nitrobenzene); 99-51-4 (1,2-Dimethyl-4-nitrobenzene); 99-65-0 (1,3-Dinitrobenzene); 99-99-0 (4-Methylnitrobenzene); 100-00-5 (4-Chloronitrobenzene); 100-02-7 (4-Nitrophenol); 100-41-4 (Ethylbenzene); 100-42-5 (Styrene); 100-61-8 (N-Methylaniline); 101-55-3 (4-Bromophenyl phenyl ether); 101-84-8 (Diphenyl ether); 102-08-9 (Diphenylthiourea); 103-69-5 (Ethylaniline); 103-72-0 (Isothiocyanatobenzene); 103-85-5 (Phenylthiourea); 104-94-9 (4-Methoxybenzenamine); 105-37-3 (Ethyl propionate); 105-55-5 (1,3-Diethylthiourea); 105-67-9 (2,4-Dimethylphenol); 106-41-2 (4-Bromophenol); 106-42-3 (p-Xylene); 106-44-5 (p-Cresol); 106-46-7 (1,4-Dichlorobenzene); 106-47-8 (4-Chloroaniline); 106-48-9 (4-Chlorophenol); 106-89-8 (Epichlorohydrin); 107-02-8 (Acrolein); 107-03-9 (1-Propanethiol); 107-06-2 (1,2-Dichloroethane); 107-07-3 (2-Chloroethanol); 107-11-9 (Allylamine); 107-13-1 (Acrylonitrile); 107-15-3 (Ethylenediamine); 107-21-1 (1,2-Ethanediol); 107-41-5 (2-Methyl-2,4-pentanediol); 107-92-6 (n-Butyric acid); 108-18-9 (Bis(isopropyl)amine); 108-38-3 (m-Xylene); 108-39-4 (m-Cresol); 108-42-9 (3-Chloroaniline); 108-44-1 (m-Toluidine); 108-85-0 (Bromocyclohexane); 108-88-3 (Toluene); 108-90-7 (Monochlorobenzene); 108-95-2 (Phenol); 109-46-6; 109-52-4 (Pentanoic acid); 109-89-7 (Diethylamine); 110-02-1 (Thiophene); 110-83-8 (Cyclohexene); 110-86-1 (Pyridine); 111-42-2 (2,2'-Iminobisethanol); 111-44-4 (2,2'-Dichlorodiethyl ether); 111-70-6 (1-Heptanol); 111-90-0 (2-(2-Ethoxyethoxy)ethanol); 111-91-1; 112-27-6 (Triethylene glycol); 114-26-1; 115-20-8 (2,2,2-Trichloroethanol); 115-29-7 (Endosulfan); 115-31-1 (Isobornyl thiocyanatoacetate); 116-06-3 (Aldicarb); 118-96-7 (2,4,6-Trinitrotoluene); 119-65-3 (Isoquinoline); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 120-93-4 (Ethyleneurea); 121-14-2 (2,4-Dinitrotoluene); 121-29-9 (Pyrethrin II); 121-73-3 (3-Nitrochlorobenzene); 121-75-5; 121-87-9 (2-Chloro-4-nitroaniline); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 122-66-7 (1,2-Diphenylhydrazine); 123-54-6 (2,4-Pentanedione); 124-40-3 (Dimethylamine); 126-73-8 (Tributyl phosphate); 127-18-4 (Tetrachloroethene); 131-11-3 (Dimethyl phthalate); 132-65-0 (Dibenzothiophene); 135-19-3 (2-Naphthol); 137-26-8 (Thiram); 140-66-9 (4-tert-Octylphenol); 141-78-6 (Ethyl acetate); 141-90-2 (Thiouracil); 142-28-9 (1,3-Dichloropropane); 142-96-1 (Butyl ether); 148-01-6 (Dinitolmide); 149-31-5 (2-Methyl-1,3-pentanediol); 150-19-6 (3-Methoxyphenol); 156-60-5 (trans-1,2-Dichloroethylene); 206-44-0 (Fluoranthene); 260-94-6 (Acridine); 298-00-0; 298-02-2 (Phorate); 311-45-5 (Diethyl p-nitrophenyl phosphate); 333-41-5; 470-90-6 (Chlorfenvinfos); 503-87-7; 532-55-8 (Benzoyl isothiocyanate); 534-13-4; 534-52-1 (Dinitro-o-cresol); 536-90-3; 541-73-1 (1,3-Dichlorobenzene); 542-75-6 (1,3-Dichloropropene); 542-85-8 (Isothiocyanatoethane); 554-00-7 (2,4-Dichloroaniline); 556-61-6 (Isothiocyanatomethane); 576-26-1 (2,6-Dimethylphenol); 578-54-1 (2-Ethylbenzenamine); 589-16-2 (4-Ethylaniline); 592-82-5 (1-Isothiocyanatobutane); 598-16-3 (Tribromoethene); 598-52-7 (Methylthiourea); 602-01-7 (2,3-Dinitrotoluene); 609-19-8 (3,4,5-Trichlorophenol); 611-06-3 (2,4-Dichloro-1-nitrobenzene); 618-62-2 (1,3-Dichloro-5-nitrobenzene); 622-78-6 (Benzyl isothiocyanate); 625-53-6 (Ethylthiourea); 626-43-7 (3,5-Dichloroaniline); 630-20-6 (1,1,1,2-Tetrachloroethane); 632-22-4; 634-67-3 (2,3,4-Trichloroaniline); 634-83-3 (2,3,4,5-Tetrachloroaniline); 636-30-6 (2,4,5-Trichloroaniline); 680-31-9 (Hexamethylphosphoramide); 693-21-0 (Diethylene glycol dinitrate); 732-11-6 (Phosmet); 759-94-4; 786-19-6 (Carbophenothion); 825-44-5 (Benzo[b]thiophene S,S-dioxide); 877-43-0 (2,6-Dimethylquinoline); 935-95-5 (2,3,5,6-Tetrachlorophenol); 944-22-9 (Fonofos); 1014-70-6 (Simetryn); 1016-05-3; 1024-57-3 (Heptachlor epoxide); 1516-32-1 (Butylthiourea); 1563-66-2 (Carbofuran); 1570-64-5 (4-Chloro-o-cresol); 1570-65-6 (2,4-Dichloro-6-methylphenol); 1582-09-8 (Trifluralin); 1825-21-4 (Pentachloroanisole); 1836-77-7 (Chlornitrofen); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-02-1 (Picloram); 1982-47-4 (Chloroxuron); 2008-58-4 (2,6-Dichlorobenzamide); 2051-60-7 (2-Chlorobiphenyl); 2051-61-8 (3-Chlorobiphenyl); 2051-62-9 (4-Chloro-1,1'-biphenyl); 2257-09-2 ((2-Isothiocyanatoethyl)benzene); 2437-79-8; 2489-77-2 (Trimethylthiourea); 2539-17-5; 2556-42-5; 2668-24-8 (2-Methoxy-4,5,6-trichlorophenol); 2741-06-2; 2764-72-9 (Diquat); 2782-91-4 (Tetramethylthiourea); 2921-88-2 (Chlorpyrifos); 3209-22-1 (1,2-Dichloro-3-nitrobenzene); 3483-12-3 (Dithiothreitol); 3689-24-5 (TEDP); 3766-81-2; 4044-65-9 (1,4-Diisothiocyanatobenzene); 4104-75-0 (N-Methyl-N-phenylthiourea); 4901-51-3 (2,3,4,5-Tetrachlorophenol); 6317-18-6; 6972-05-0 (N,N-Dimethylthiourea); 7012-37-5 (2,4,4'-Trichlorobiphenyl); 7664-38-2 (Phosphoric acid); 8018-01-7 (Mancozeb); 10605-21-7 (Carbendazim); 12002-48-1 (Trichlorobenzene); 15263-53-3; 18259-05-7 (2,3,4,5,6-Pentachlorobiphenyl); 23564-05-8 (Thiophanatemethyl); 25154-52-3 (Nonylphenol); 25155-15-1 (Cymene); 25875-51-8 (Robenidine); 28249-77-6 (Thiobencarb); 29232-93-7 (Pirimiphos-methyl); 32598-13-3 (3,3',4,4'-Tetrachlorobiphenyl); 33813-20-6 (5,6-Dihydro-3H-imidazo[2,1-c]-1,2,4-dithiazole-3-thione); 33820-53-0 (Isopropalin); 35065-27-1 (2,2',4,4',5,5'-Hexachloro-1,1'-biphenyl); 35367-38-5 (Diflubenzuron); 35693-99-3 (2,2',5,5'-Tetrachlorobiphenyl); 37680-65-2 (2,2',5-Trichloro-1,1'-biphenyl); 37680-73-2 (2,4,5,2',5'-Pentachlorobiphenyl); 38380-07-3 (2,2',3,3',4,4'-Hexachlorobiphenyl); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 55406-53-6; 57057-83-7 (3,4,5-Trichloroguaiacol); 59756-60-4 (Fluridone); 66230-04-4 (Esfenvalerate); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 76738-62-0 (Paclobutrazol) Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (structural alerts-new classification model to discriminate excess toxicity from narcotic effect levels of org. compds. in acute daphnid assay)

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Citations: 40) Dady, J; Xenobiotica 1991, 29, 1605
Citations: 41) Bradbury, S; Toxicol Appl Pharmacol 1993, 118, 205 Quant. and qual. structure-activity relationships (QSARs) have a great potential to support the risk assessment of chems., provided there are tools available that allow evaluation of the suitability of QSARs for the compds. of interest. In this context, a pragmatic approach is to discriminate excess toxicity from narcotic effect levels, because the latter can be estd. from QSARs and thus have a low priority for exptl. testing. To develop a resp. scheme for the acute daphnid toxicity as one of the primary ecotoxicol. endpoints, 1067 acute toxicity data entries for 380 chems. involving the daphnid species Daphnia magna were taken from the online literature, and quality checks such as water soly. were employed to eliminate apparently odd data entries. For 36 known narcotics with LC50 values referring to D. magna, a ref. baseline QSAR is derived. Compds. with LC50 values above a certain threshold defined relative to their predicted baseline toxicity are classified as exerting excess toxicity. Three simple discrimination schemes are presented that enable the identification of excess toxicity from structural alerts based on the presence or absence of certain heteroatoms and their chem. functionality. Moreover, a two-step classification approach is introduced that enables a prioritization of org. compds. with respect to their need for exptl. testing. The discussion includes reaction mechanisms that may explain the assocn. of structural alerts with excess toxicity, a comparison with predictions derived from mode of action-based classification schemes, and a statistical anal. of the discrimination performance in terms of detailed contingency table statistics. [on SciFinder (R)] 0893-228X QSAR/ toxicity/ narcotic/ org/ compd/ Daphnia

1352. Voronina, V. M., Popov, T. A., Kagan, I. U. S., and Pis'mennaia, M. V. (1981). [Effect of Mixed Function Oxidases on Phthalophos Transformation in Rat Liver]. *Ukr Biokhim Zh* 53: 26-29.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: Phthalophos, organophosphoric pesticide, in the perfused isolated liver of rats transforms to water-soluble oxymethyl phthalimide and phthalimide. The induction of the liver hydroxylating enzymic system with milbex accelerates transformation of phthalophos: in 5 min only 14% of its initial amount is found in perfusate, while in the control--52%. The inhibition of the hydroxylating enzymic system with tetramethylthiuramdisulphide (dithiocarbamate pesticide) inhibits transformation of phthalophos: in 15 min perfusate contains 33% of its initial amount and the control--16%. Induction and inhibition of the hydroxylating enzymic system of the liver affect essentially the phthalophos toxicodynamics, decreasing the degree of the cholinesterase activity.
MESH HEADINGS: Animals
MESH HEADINGS: Azo Compounds/pharmacology
MESH HEADINGS: Benzhydryl Compounds/pharmacology
MESH HEADINGS: *Biotransformation
MESH HEADINGS: Enzyme Induction
MESH HEADINGS: Female
MESH HEADINGS: Insecticides/*metabolism/pharmacology
MESH HEADINGS: Liver/enzymology/*metabolism
MESH HEADINGS: Oxidoreductases/biosynthesis/*metabolism
MESH HEADINGS: Phosmet/*metabolism
MESH HEADINGS: Rats
MESH HEADINGS: Thiram/pharmacology
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Vliianie oksidaz smeshannoĭ funktsii na prevrashchenie ftalofosa v pecheni krys.

1353. Voronina, V. M., Popov, T. A., Kagan, Y. U. S., and Pismennaya, M. V. (Vliyanie Oksidaz Smeshannoi

Funktsii Na Prevrashchenie Ftalofosa V Pecheni Krys. [Effect of the Mixed Function Oxidases on Phthalophos Transformation in Rat Liver.]. *Ukr. Biokhim. Zh. 53(1): 26-29 1981 (13 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The effect of induction and inhibition of liver hydroxylating enzymes on the rate of phthalophos (phosmet) degradation was studied in the perfused rat liver. Random-bred rats were subjected to a po daily administration of the organochlorine pesticide milbex at 0.2 LD50 (to induce the hydroxylating enzyme system) or the dithiocarbamate pesticide tetramethylthiuramdisulfide (TMTD, thiram) at 0.2 LD50 (to inhibit the hydroxylating enzyme system). Pesticides were given for 3 days. Two days after termination of pesticide administration, rats were sacrificed and the isolated perfused liver was exposed to phthalophos at 8 mug/ml of perfusate. It was found that the hydroxylating enzyme system had a significant effect on the rate of phthalophos degradation. Milbex enhanced phthalophos degradation, while TMTD delayed phthalophos degradation.
LANGUAGE: rus

1354. Vrochinski&#301, Kk, and Danilenko, L. P. ([Toxicological-Hygienic Characteristics of Phthalophos and Its Standaridzation in the Water Supply]. *Gig sanit. 1970, dec; 35(12):94-6. [Gigiena i sanitariia]: Gig Sanit.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

MESH HEADINGS: Animals
MESH HEADINGS: Environmental Exposure
MESH HEADINGS: Insecticides/*toxicity
MESH HEADINGS: Maximum Allowable Concentration
MESH HEADINGS: Mice
MESH HEADINGS: Organothiophosphorus Compounds/toxicity
MESH HEADINGS: Phosphoric Acids/*toxicity
MESH HEADINGS: Rabbits
MESH HEADINGS: *Water Pollution
MESH HEADINGS: Water Pollution, Chemical
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Toksikologo-gigienicheskaia kharakteristika ftalofosa i ego normirovanie v vode vodoemov.

1355. Vrochinskii, K. K., Makovskii, V. N., and Stefanskii, K. S. (Hygienic Aspects of Pesticide Migration in the Biosphere. *Gig. Sanit. (9): 66-70 1977 (16 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: PESTAB. Studies on the migration of pesticides in the biosphere are reviewed. The ability of certain pesticides to migrate in water was found to decrease in the order DDT, polychloropinene (strobane), melprex (dodine), phosalone, lindane, and phthalophos (phosmet). the migration of DDT from the soil into plants is highest for root crops, such as carrots and potatoes (4-25%), and lowest for corn (2%) and cabbage (0.3-0.6%), and increases with the DDT level in the soil. Carbaryl was found to persist for 1-2 years in soil and for 0.5-3 months in plants grown in soil containing carbaryl.
LANGUAGE: rus

1356. Vrochinskiy, K. K. (Migratory Properties of Pesticides in a Model Water Ecosystem. *Ryb. Khoz.11: 29-31; 1973.*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB The stability and migration of 11 different pesticides in model ecosystems (water, water with fish, and water with silt and aquatic plants) were studied in a 30-day experiment. The stability of the pesticides in water without aquatic organisms decreased in the order lindane, DDT, polychlorocamphene, toxaphene abate, baytex fenthion, fenuron,

trichlorometaphos-3 (ronnel), melprex dodine, polycarbazine, phosalone, and phthalophos phosmet. The cumulation factors determined in silt, aquatic plants, and fish were in the respective ranges of 0. 4-800, 0. 4-3,550, and 0. 4-1,870. The cumulation factors were under 50 for phthalophos and over 1,000 for DDT and polychlorocamphene. Adsorption and secondary desorption, i. e. , circulation of the pesticides in the water ecosystem rather than self-purification, were observed, especially in the case of the most hazardous pesticidesöDDT, polychlorocamphene, melprex, and phosalone.
LANGUAGE: rus

1357. Walker, C. H. (1983). Pesticides and Birds--Mechanisms of Selective Toxicity. *Agric.Ecos.Environ.* 9: 211-226.
Chem Codes: Chemical of Concern: PIRM,OXD,DLD,PPX,MCB,EPTC,CBL,TCF,TVP,TMP,PSM,PRT,FNT,DS,DCTP,DEM,CMPH,AZ,CPY,DDVP,DMT,ETN,FNTH,MVP,PRN,MP,DZ,PPHD Rejection Code: REFS CHECKED/REVIEW.

1358. Walter, Harald, Corsi, Camilla, Ehrendfreund, Josef, Lamberth, Clemens, and Tobler, Hans (20060413). Synergistic fungicidal compositions comprising a pyridine derivative. 112 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 2006:343286
Chemical Abstracts Number: CAN 144:364542
Section Code: 5-2
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Terpenes Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (chloro-, mixts. with pyridine derivs.; synergistic fungicidal compns.); Cedar; Polygonum sachalinense (ext., mixts. with pyridine derivs.; synergistic fungicidal compns.); Fats and Glyceridic oils Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (margosa, mixts. with pyridine derivs.; synergistic fungicidal compns.); Bacillus pumilus; Bacillus thuringiensis; Trichoderma; Trichoderma harzianum; Trichoderma virens; Xanthomonas campestris vesicatoria (mixts. with pyridine derivs.; synergistic fungicidal compns.); Paraffin oils; Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. with pyridine derivs.; synergistic fungicidal compns.); Petroleum products (oils, mixts. with pyridine derivs.; synergistic fungicidal compns.); Bacillus subtilis (synergistic fungicidal compns.); Fungicides (synergistic; compns. comprising a pyridine deriv.); Naphthenic acids Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (zinc salts, mixts. with pyridine derivs.; synergistic fungicidal compns.); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, mixts. with pyridine derivs.; synergistic fungicidal compns.)
CAS Registry Numbers: 76720-26-8 (PCNB-Metalaxyl mixt.) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. with Bacillus subtilis and pyridine derivs.; synergistic fungicidal compns.); 50-00-0D (Formaldehyde); 50-14-6D (Ergocalciferol;); 50-29-3D; 50-65-7D (Niclosamide); 51-03-6D (Piperonyl butoxide); 51-14-9D (Sesamex); 51-18-3D (Tretamine;); 52-24-4D (Thiotepa;); 52-46-0D (Apholate;); 52-51-7D (Bronopol); 52-68-6D; 54-11-5D (Nicotine); 54-64-8D (Thiomersal;); 55-38-9D (Fenthion); 55-98-1D (; Busulfan;); 56-23-5D (Carbon tetrachloride); 56-35-9D (Bis(tributyltin)oxide;); 56-38-2D (Parathion); 56-72-4D (Coumaphos); 57-24-9D (Strychnine); 57-39-6D (Metepa); 57-92-1D (Streptomycin;); 58-89-9D (Lindane;); 60-51-5D (Dimethoate;); 62-73-7D (Dichlorovos); 63-25-2D (Carbaryl;); 66-81-9D (Cycloheximide;); 67-66-3D (Chloroform); 67-97-0D (Cholecalciferol;); 70-43-9D (Barthrin;); 71-55-6D (Methylchloroform;); 71-62-5D (Veratrine;); 72-20-8D (Endrin); 72-56-0D (1,1-Dichloro-2,2-bis(4-ethylphenyl)ethane;); 74-83-9D (Methyl bromide); 74-88-4D (Iodomethane;); 75-15-0D (Carbon disulfide); 76-06-2D (Chloropicrin); 76-87-9D (Triphenyltin hydroxide;); 76-96-0D (Methiotepa); 78-34-2D (Dioxathion); 78-53-5D (Amiton); 78-87-5D (1,2-

Dichloropropane;); 79-57-2D (Terramycin); 80-33-1D (Chlorfenson); 80-38-6D (Fenson;); 81-81-2D (Warfarin;); 82-66-6D (Diphacinone;); 82-68-8D (Pentachloronitrobenzene); 83-26-1D (Pindone;); 83-28-3D (2-Isovalerylindan-1,3-dione); 83-79-4D (Rotenone); 84-65-1D (Anthraquinone;); 86-50-0D (Azinphosmethyl); 87-47-8D (3-Methyl-1-phenylpyrazol-5-yl dimethylcarbamate;); 87-86-5D (Pentachlorophenol;); 92-52-4D (Biphenyl); 93-15-2D (Methyleugenol); 93-75-4D (Thioquinox;); 95-05-6D (Sulfiram;); 96-12-8D (DBCP;); 97-23-4D (Dichlorophen;); 97-53-0D (Eugenol;); 97-77-8D (Disulfiram); 98-01-1D (Furfural;); 99-30-9D (Dicloran;); 101-05-3D (Anilazine); 103-17-3D (Chlorbensid); 103-33-3D (Azobenzene;); 104-55-2D (Cinnamaldehyde;); 105-99-7D (Dibutyl adipate;); 106-93-4D (Ethylene dibromide;); 107-04-0D (1-Bromo-2-chloroethane;); 107-13-1D (Acrylonitrile); 107-49-3D (TEPP;); 108-60-1D (DCIP); 108-62-3D (Metaldehyde); 110-85-0D (Piperazine); 111-44-4D (BIs(2-chloroethyl)ether); 112-56-1D (2-(2-Butoxyethoxy)ethyl thiocyanate); 112-80-1D (Oleic acid;); 113-48-4D (MGK 264;); 114-26-1D (Propoxur;); 115-26-4D (Dimefox); 115-29-7D (Endosulfan;); 115-32-2D (Dicofol;); 116-01-8D (Ethoatemethyl;); 116-06-3D (Aldicarb;); 116-29-0D (Tetradifon;); 117-18-0D (Tecnazene); 117-80-6D (Dichlone;); 118-74-1D (Hexachlorobenzene;); 119-12-0D (Pyridaphenthion); 120-93-4D (2-Imidazolidone); 121-20-0D (Cinerin II); 121-21-1D (Pyrethrin I); 121-29-9D (Pyrethrin II); 121-75-5D; 122-15-6D; 122-34-9D (Simazine;); 126-75-0D (Demeton-S); 126-96-5D (Sodium diacetate); 127-63-9D (Diphenyl sulfone;); 127-90-2D (S421;); 131-11-3D (Dimethyl phthalate;); 131-52-2D (Sodium pentachlorophenoxide;); 131-89-5D (Dinex;); 133-06-2D (Captan;); 133-07-3D (Folpet;); 134-31-6D (8-Hydroxyquinoline sulfate;); 134-62-3D (Diethyltoluamide;); 135-58-0D (Mesulfen;); 136-63-0D; 137-26-8D (Thiram); 137-30-4D (Ziram;); 137-40-6D (Sodium propionate); 137-41-7D; 137-42-8D (Metamsodium); 140-56-7D (Fenaminosulf;); 140-57-8D (Aramite); 141-03-7D (Dibutyl succinate); 141-66-2D (Dicrotophos;); 142-59-6D (Nabam); 143-50-0D; 144-54-7D (Metam;); 144-55-8D (; Sodium bicarbonate); 145-73-3D; 148-79-8D (Thiabendazole;); 152-16-9D (Schradan); 298-00-0D (Parathionmethyl); 298-02-2D (Phorate); 298-03-3D (Demeton-O); 298-04-4D (Disulfoton;); 298-14-6D (Potassium bicarbonate;); 299-45-6D; 299-84-3D; 299-86-5D (Crufomate); 300-76-5D (Naled;); 301-11-1D (2-Thiocyanatoethyl laurate); 301-12-2 (Oxydemeton methyl); 302-49-8D (Uredepa;); 309-00-2D (HHDN;); 311-47-7D (2-Chlorovinyl diethyl phosphate;); 315-18-4D (Mexacarbate); 317-83-9D (Dinexdiclexine;); 333-41-5D; 371-86-8D (Mipafox;); 405-30-1D (Fluorbenside); 470-90-6D; 471-47-6D; 483-63-6D (Crotamiton); 485-31-4D (Binapacryl;); 494-97-3D (Nornicotine); 500-28-7D; 504-24-5D (4-Pyridinamine); 507-60-8D (Scilliroside;); 513-77-9D (Barium carbonate;); 525-79-1D (Kinetin); 526-07-8D (Sesamolin); 532-34-3D (Butopyronoxyl); 534-52-1D (DNOC;); 535-89-7D (Crimidine); 542-75-6D (1,3-Dichloropropene;); 545-55-1D (; Tepa;); 555-89-5D (DCPM;); 556-22-9D (Glyodin;); 563-12-2D (Ethion); 584-79-2D (Bioallethrin); 594-72-9D (1,1-Dichloro-1-nitroethane;); 639-58-7D (Fentin chloride); 640-15-3D (Thiometon); 640-19-7D (Fluoroacetamide;); 645-05-6D (Hemel;); 668-34-8D (Fentin;); 671-04-5D (Carbanolate;); 680-31-9D (Hempa); 682-80-4D (Demephion-O); 683-57-8D (Bromoacetamide;); 731-27-1D (Tolylfluanid); 732-11-6D (Phosmet;); 780-11-0D (Terbam;); 786-19-6D (Carbophenothion); 867-27-6D (Demeton-O-methyl;); 900-95-8D (Triphenyltin acetate;); 919-76-6D (Amidithion); 919-86-8D (Demeton-S-methyl;); 947-02-4D (Phosfolan;); 950-37-8D (Methidathion); 973-21-7D (Dinobuton;); 991-42-4D (Norbormide;); 1031-47-6D (Triamiphos); 1085-98-9D (Dichlofluanid;); 1113-02-6D (Omethoate); 1121-30-8D; 1129-41-5D (Metolcarb;); 1172-63-0D (Jasmolin II); 1303-96-4D (Borax); 1305-62-0D (Hydrated lime;); 1314-84-7D (Zinc phosphide;); 1319-77-3D (; Cresol;); 1327-53-3D (Arsenous oxide;); 1344-81-6D (Calcium polysulfide); 1420-04-8D (Niclosamide ethanolamine salt); 1563-66-2D (Carbofuran;); 1569-60-4D (Sulcatol); 1646-88-4D (Aldoxycarb;); 1715-40-8D (Bromocyclen;); 1754-58-1D (Diamidafos;); 1776-83-6D (Quintiofos;); 1897-45-6D (Chlorothalonil;); 1929-82-4D (Nitrapyrin); 2032-65-7D (Methiocarb;); 2079-00-7D (Blasticidin-S); 2104-64-5D (EPN); 2104-96-3D (Bromophos); 2168-68-5D (Morzid); 2227-13-6D (Tetrasul;); 2227-17-0D (Dienochlor); 2274-74-0D (Chlorfen sulfide); 2275-14-1D (Phenkapton;); 2275-18-5D (Prothoate); 2310-17-0D (Phosalone); 2312-35-8D (Propargite); 2425-06-1D (Captafol); 2425-20-9D (Siglure;); 2439-01-2D (Chinomethionat); 2439-10-3D (Dodine;); 2463-84-5D (Dicapthon); 2497-07-6D (Oxydisulfoton); 2540-82-1D (Formothion); 2550-75-6D (Chlorbicyclen); 2587-90-8D (Demephion-S;); 2593-15-9D (Etridiazole;); 2595-54-2D (Mecarbam); 2597-03-7D (Phenthoate); 2633-54-7D (Trichlorometaphos-3;); 2642-71-9D (Azinphosethyl); 2655-14-3D (XMC;); 2668-

92-0D; 2674-91-1D (Oxydeprofos;); 2675-77-6D (Chloroneb); 2699-79-8D (Sulfuryl fluoride); 2778-04-3D (Endothion); 2797-51-5D (Quinoclamine;); 2921-88-2D (Chloropyrifos); 3244-90-4D; 3347-22-6D (Dithianone); 3527-55-7D (Methyl apholate;); 3572-06-3D (Cuelure;); 3604-87-3D; 3653-39-2D (Hexamid); 3655-88-7D; 3689-24-5D (Sulfotep); 3691-35-8D (Chlorophacinone;); 3696-28-4D (Dipyrithione); 3732-82-9D (Thiohempa;); 3734-95-0D (Cyanthoate.); 3734-97-2D (Amiton oxalate); 3737-00-6D (3-Bromo-1-chloroprop-1-ene;); 3810-74-0D (Streptomycin sesquisulfate;); 3878-19-1D (Fuberidazole;); 3890-89-9D (Copper dioctanoate;); 4151-50-2D (Sulfluramid); 4234-79-1D (Kelevan;); 4301-50-2D (Fluenetil); 4466-14-2D (JAsmolin I); 4824-78-6D (Bromophosethyl); 5221-49-8D (Pyrimitate); 5221-53-4D (Dimethirimol); 5234-68-4D (Carboxin;); 5259-88-1D (Oxycarboxin;); 5386-57-2D (Dinopenton); 5386-77-6D (Dinosulfon); 5598-13-0D; 5748-20-9D (Trimedlure B1;); 5748-21-0D (Trimedlure B2); 5748-22-1D (Trimedlure A); 5827-05-4D (IPSP); 5834-96-8D (Azothoate;); 5836-10-2D (Chloropropylate;); 5903-13-9D (2-Fluoro-N-methyl-N-1-naphthylacetamide); 6012-83-5D; 6012-92-6D; 6073-72-9D (Dinoterbon;); 6164-98-3D (Chlordimeform;); 6505-86-8D (Nicotine sulfate;); 6843-97-6D (Dodicin;); 6980-18-3D (Kasugamycin); 7076-53-1D; 7345-69-9D (GY-81;); 7439-97-6D (Mercury); 7440-50-8D (Copper); 7487-94-7D (Mercuric chloride); 7561-71-9D (Trinactin;); 7664-38-2D (Phosphoric acid); 7681-49-4D (Sodium fluoride); 7700-17-6D (Crotoxyphos;); 7704-34-9D (Sulfur); 7758-98-7D (Copper sulfate); 7778-44-1D (Calcium arsenate;); 7782-50-5D (Chlorine); 7803-51-2D (Phosphine); 8001-35-2D (Camphechlor); 8003-19-8D; 8011-63-0D (Bordeaux mixture); 8018-01-7D (Mancozeb); 8022-00-2D (Demetonmethyl;); 8065-36-9D (; Bufencarb;); 8065-48-3D (Demeton;); 8065-62-1D (Demephion;); 9003-13-8D (Butoxy(polypropylene glycol); 9006-42-2D (Metiram); 10004-44-1D (Hymexazole); 10045-86-0D (Ferric phosphate;); 10108-64-2D (Cadmium chloride;); 10311-84-9D (Dialifos); 10380-28-6D (Oxine Copper); 10402-16-1D (Copper oleate); 10453-56-2D (cis-Resmethrin); 10453-86-8D (Resmethrin;); 10537-47-0D (Malonoben;); 10605-21-7D (Carbendazim;); 11096-18-7D (Cufraneb); 11104-05-5D (; Grandlure); 11113-64-7D (Imanin); 11113-80-7D (Polyoxin); 11136-48-4D (BAS 3201); 11141-17-6D (Azadirachtin;); 12002-03-8D (C.I. Pigment Green 21); 12002-53-8D (Trimedlure); 12057-74-8D (Magnesium phosphide); 12071-83-9D (Propineb;); 12122-67-7D (Zineb;); 12427-38-2D (Maneb;); 12789-03-6D (Chlordan); 12789-45-6D (Methyl phosphate); 13121-70-5D (Cyhexatin); 13171-21-6D (Phosphamidon); 13356-08-6D (Fenbutatin oxide); 13457-18-6D (Pyrazophos); 13516-27-3D (Iminoctadine;); 13593-03-8D (Quinalphos;); 13593-08-3D (Quinalphosmethyl;); 13687-09-7D (Bisazir); 13804-51-8D (Juvenile hormone I); 13929-18-5D (Medlure;); 14088-71-2D (Proclonol;); 14202-66-5D (Amidothioate;); 14235-86-0D (Hydrargaphen;); 14255-88-0D (Fenazaflor;); 14465-96-4D (Dimatif;); 14484-64-1D (Ferbam;); 14534-95-3D (Potassium hydroxyquinoline sulfate); 14698-29-4D (Oxolinic acid); 14816-18-3D (Phoxim;); 14816-20-7D; 14959-86-5D; 15263-52-2D (Cartap hydrochloride;); 15263-53-3D (Cartap;); 15310-01-7D (Benodanil;); 15339-36-3D (Manganous dimethyl dithiocarbamate); 15521-65-0D (Nickel bis(dimethyldithiocarbamate);); 15584-04-0D (Arsenate); 15879-93-3D (Chloralose); 16725-53-4D; 16752-77-5D (Methomyl); 16759-59-4D (Benoxafos;); 16893-85-9D (Sodium hexafluorosilicate;); 16908-48-8D (RA-17;); 16974-34-8; 17040-19-6D; 17109-49-8D (Edifenphos;); 17125-80-3D (Barium hexafluorosilicate); 17606-31-4D (Bensultap); 17702-57-7D (Formparanate); 17804-35-2D (Benomyl;); 18181-70-9D (Jodfenphos); 18181-80-1D (Bromopropylate); 19408-46-9D (Kasugamycin hydrochloride); 19622-19-6D (Prothiocarb); 19691-80-6D (Athidathion); 19750-95-9D (Chlordimeform hydrochloride;); 19764-43-3D (Methoquinbutyl); 20261-85-2D (Dinactin); 20276-83-9D (Prothidathion); 20290-99-7D (Brevicomin); 20427-59-2D (Copper hydroxide;); 20543-04-8D (Copper octanoate); 21548-32-3D (Fosthietan); 21564-17-0D (TCMTB;); 21709-44-4D; 21757-82-4D (2,2,2-Trichloro-1-(3,4-dichlorophenyl)ethyl acetate;); 21908-53-2D (Mercuric oxide;); 22224-92-6D (Fenamiphos); 22248-79-9D; 22259-30-9D (Formetanate); 22431-62-5D (Bioethanomethrin;); 22781-23-3D (Bendiocarb;); 22963-93-5D (Juvenile hormone III); 23135-22-0D (Oxamyl); 23192-42-9D (Hexalure); 23400-52-4D (Megatomoic acid;); 23422-53-9D (Formetanate hydrochloride;); 23504-07-6D; 23505-41-1D (Pirimiphosethyl;); 23526-02-5D (Thuringiensin); 23560-59-0D (Heptenophos;); 23564-05-8D (Thiophanatemethyl); 23564-06-9D (Thiophanate); 23623-49-6D; 23947-60-6D (Ethirimol); 24017-47-8D (Triazophos); 24353-61-5D (Isocarbophos;); 24579-73-5D (Propamocarb); 24691-80-3D (Fenfuram;); 24934-91-6D; 25171-63-5D (Thiocarboxime;);

25177-27-9D; 25402-06-6D (Cinerin I;); 26087-47-8D (Iprobenfos); 26530-20-1D (Octhilinone); 26532-22-9D (; Grandlure I;); 26532-24-1D (Grandlure III); 26532-25-2D (Grandlure IV); 26532-95-6D (Tetradec-11-en-1-yl acetate;); 26644-46-2D (Triforine); 26952-23-8D (Dichloropropene); 27355-22-2D (Fthalide;); 27519-02-4D (Muscalure); 27541-88-4D (Quinonamid); 27605-76-1D (Probenazole); 28159-98-0D (Cybutrin); 28217-97-2D (Chlormethiuron); 28401-39-0D (Frontalin); 28434-00-6D (S-Bioallethrin); 28772-56-7D (Bromadiolone;); 29104-30-1D (Benzoximate;); 29173-31-7D (Mecarphon); 29232-93-7D (Pirimiphosmethyl); 29656-68-6D (Ethyl hexanediol); 29672-19-3D (Nitrilacarb;); 29804-22-6D (Disparlure;); 30507-70-1D; 30525-89-4D (Paraformaldehyde); 30560-19-1D (Acephate); 31218-83-4D (Propetamphos); 32809-16-8D (Procymidone); 33089-61-1D (Amitraz;); 33399-00-7D (Bromfenvinfos); 33956-49-9D (; Codlelure;); 33956-61-5D (Tetranactin;); 34010-21-4D ((Z)-Hexadec-11-en-1-yl acetate;); 34218-61-6D (Juvenile hormone II); 34264-24-9D (Promacyl;); 34681-10-2D (Butocarboxim); 34681-23-7D (Butoxycarboxim;); 35153-15-2D ((Z)-Tetradec-9-en-1-ol;); 35367-31-8D (Penfluron;); 35367-38-5D (Diflubenzuron); 35409-97-3D (PH 60-38;); 35575-96-3D (Azamethiphos); 35628-00-3D (Ipsdienol); 35628-05-8D (Ipsenol;); 35764-59-1D (Cismethrin); 36145-08-1D (Chlorprazophos;); 36734-19-7D (Iprodione); 36791-04-5D (Ribavirin); 37032-15-8D (Sophamide); 37338-40-2; 37338-40-2D (Orfralure); 37407-77-5D (Chlormebuform); 37893-02-0D (Flubenzimine;); 38260-54-7D (Etrimfos); 38421-90-8D ((E)-Dec-5-en-1-yl acetate); 38524-82-2D (Trifenofos;); 39148-24-8D (Fosetyl-aluminum); 39196-18-4D (Thiofanox); 39285-04-6D (Polynactin); 39300-45-3D (Dinocap;); 39515-41-8D (Fenpropathrin); 39589-98-5D (Dimethyl carbate;); 39603-48-0D (Bisthiosemi); 40085-57-2D (Tazimcarb); 40596-80-3D (Triprene;); 40626-35-5D (Heterophos;); 41083-11-8D (Azocyclotin;); 41096-46-2D (Hydroprene;); 41198-08-7D (Profenofos;); 41483-43-6D (Bupirimate); 41814-78-2D (Tricyclazole); 42588-37-4D (Kinoprene;); 42873-80-3D (Dofenapyn;); 50471-44-8D (Vinclozolin); 50512-35-1D (Isoprothiolane;); 50642-14-3D (Validamycin); 50767-79-8D; 50933-33-0D (Gossyplure); 51596-10-2D (Milbemectin;); 51630-58-1D (Fenvalerate); 52315-07-8D (Zetacypermethrin); 52645-53-1D (Permethrin); 53231-49-5D (Copper Ammonium carbonate); 53939-28-9 ((Z)-Hexadec-11-enal;); 54364-62-4D; 54460-46-7D (Hexadecyl cyclopropanecarboxylate); 54593-83-8D (Chlorethoxyfos;); 54815-06-4D (a-Multistriatin); 55179-31-2D (Bitertanol); 55285-14-8D (Carbosulfan;); 55406-53-6D (Iodocarb;); 55600-59-4D (Isolane); 55814-41-0D (Mepronil;); 56073-07-5D (Difenacoum;); 56073-10-0D (Brodifacoum;); 56196-53-3D (Oryctalure;); 56578-18-8D ((E)-Dec-5-en-1-ol;); 57018-04-9D (Tolclofosmethyl); 57127-42-1D (Chlorofenethol); 57369-32-1D (Pyroquilon); 57646-30-7D (Furalaxyl;); 57808-65-8D (Closantel;); 57837-19-1D (Metalaxyl); 57960-19-7D (Acequinocyl;); 57966-95-7D (Cymoxanil); 58810-48-3D (Ofurace); 59669-26-0D (Thiodicarb;); 60168-88-9D (Fenarimol;); 60238-56-4D (Chlorthiophos;); 60799-74-8D (Litlure); 61444-62-0D (Nifluridide;); 61654-54-4D; 61676-87-7D (CGA 50439); 62441-54-7D (Fentrifanil); 62850-32-2D (Fenothiocarb;); 62865-36-5D (Diclomezine); 63284-71-9D (Nuarimol); 63333-35-7D (Bromethalin;); 63408-44-6D ((Z)-Eicos-13-en-10-one;); 63771-69-7D (Zolaprofos); 64628-44-0D (Triflumuron;); 64726-91-6D (Japonilure); 65035-34-9D (Lineatin); 65128-96-3D; 65400-98-8D (Fenoxacrim); 65691-00-1D (Triarathene); 66063-05-6D (Pencycuron); 66332-96-5D (Flutolanil); 66602-87-7D (Isamidofos;); 66952-49-6D (Methasulfocarb); 67375-30-8D (Alphacypermethrin); 68085-85-8D (Clocythrin); 68359-37-5D (Betacyfluthrin); 68523-18-2D (Fenpirithrin;); 69327-76-0D (Buprofezin); 69409-94-5D (Fluvalinate;); 69770-45-2D (Flumethrin); 70124-77-5D (Flucythrinate;); 70288-86-7D (Ivermectin); 70630-17-0D (Mefenoxam); 71422-67-8D (Chlorfluazuron;); 71626-11-4D (Benalaxyl;); 71751-41-2D (Abamectin); 72269-48-8D ((E)-Tridec-4-en-1-yl acetate;); 72459-58-6D (Triazoxide;); 72490-01-8D (Fenoxycarb); 74115-24-5D (Clofentezine;); 76280-91-6D (Tecloftalam); 76738-62-0D; 77732-09-3D (Oxadixyl); 78587-05-0D (Hexythiazox); 78617-58-0D; 79622-59-6D (Fluazinam;); 79983-71-4D (Hexaconazole); 80060-09-9D (Diafenthiuron); 80510-15-2D (Dominicalur I); 81613-59-4D (Flupropadine); 81613-60-7D; 82560-54-1D (Benfuracarb); 82657-04-3D (Bifenthrin); 83212-30-0D; 84332-86-5D (Chlozolinate;); 84466-05-7D (Amidoflumet); 86003-55-6D (Nikkomycin); 86811-58-7D (Fluazuron); 86848-99-9D (Chlorobenzoate); 87130-20-9D (Diethofencarb;); 88283-41-4D (Pyrifenox;); 89269-64-7D (Ferimzone;); 89784-60-1D (Pyraclofos;); 90035-08-8D (Flocoumafen;); 93091-95-3D (14-Methyloctadec-1-ene;); 95465-99-9D (Sebufos;); 96489-71-3D (Pyridaben); 98243-83-5D (Benalaxyl-M;); 101007-06-1D (Acrinathrin;); 101463-69-8D (Flufenoxuron;); 101903-30-4D

(Pefurazoate); 102851-06-9D (Tau-fluvalinate); 103055-07-8D (Lufenuron); 103782-08-7D (Allosamidin); 104078-12-8D (Dinocton); 104653-34-1D (Difethialone;); 105425-52-3D; 105700-87-6D; 105726-67-8D (Methylneodecanamide;); 105779-78-0D (Pyrimidifen); 106855-58-7D (GL-21;); 106917-52-6D (Flusulfamide;); 108173-90-6D (Guazatine); 110488-70-5D (Dimethomorph); 111872-58-3D (Halfenprox); 112143-82-5D (Triazuron;); 112636-83-6D (Dicyclanil;); 113036-88-7D (Flucycloxuron;); 113507-06-5D (Moxidectin); 115852-48-7D (Fenoxanil); 116714-46-6D (Novaluron;); 117704-25-3D (Doramectin;); 119168-77-3D (Tebufenpyrad;); 119515-38-7D (Picaridin); 119544-94-4D (Protrifenbute;); 119791-41-2D (Emamectin); 120068-37-3D (Fipronil;); 120116-88-3D (Cyazofamid); 120928-09-8D (Fenazaquin;); 120955-77-3D (NC-184); 121451-02-3D (Noviflumuron;); 122453-73-0D (Chlorfenapyr); 123312-89-0D (Pymetrozine); 123572-88-3D (Furametpyr;); 123997-26-2D (Eprinomectin;); 124495-18-7D (Quinoxyfen); 126833-17-8D (Fenhexamid); 129496-10-2D; 130000-40-7D (Thifluzamide); 130339-07-0D (Diflumetorim); 131807-57-3D (Famoxadone); 134098-61-6D (Fenpyroximate); 135158-54-2D (Acibenzolar-S-methyl;); 139920-32-4D (Diclocymet); 140923-17-7D (Iprovalicarb); 143807-66-3D (Chromafenozide;); 145767-97-1D (Vaniliprole); 146659-78-1D (Polyoxin D zinc salt); 148477-71-8D (Spirodiclofen); 149877-41-8D (Bifenazate); 153233-91-1D (Etoxazole;); 155569-91-8D (Emamectin benzoate;); 156052-68-5D (Zoxamide); 160791-64-0D (ZXI 8901;); 161326-34-7D (Fenamidone); 162320-67-4D (SZI-121); 162490-88-2D (Sordidin;); 162650-77-3D (Ethaboxam;); 163269-30-5D (Bethoxazin;); 168316-95-8D (Spinosad); 175217-20-6D (Silthiofam;); 180409-60-3D; 183675-82-3D (Penthiopyrad;); 185676-84-0D (MB-599;); 188425-85-6D (Boscalid;); 199062-81-2D (AZ 60541); 201593-84-2D (Bistrifluron); 209861-58-5D (Acetoprole;); 211867-47-9D; 214706-53-3D; 220119-17-5D (Selamectin); 220899-03-6D (Metrafenone;); 221201-92-9D; 229977-93-9D (Fluacrypyrim;); 239110-15-7D; 240494-70-6D (Metofluthrin); 255725-89-4D (Dicliphos); 272451-61-3D; 283594-90-1D (Spiromesifen;); 333385-29-8D; 374704-75-3D; 374726-62-2D; 413615-35-7D (Benthiavalicarb); 438450-41-0D; 500007-97-6D; 500008-00-4D; 500008-18-4D; 500008-20-8D; 500008-29-7D; 500008-36-6D; 500008-44-6D; 500008-45-7D; 500008-54-8D; 500008-55-9D; 500008-56-0D; 500008-60-6D; 500008-62-8D; 500008-66-2D; 500008-67-3D; 500008-74-2D; 500008-75-3D; 500010-08-2D; 500010-10-6D; 500011-03-0D; 500790-39-6D; 599194-51-1D; 599197-38-3D; 683776-96-7D; 683777-13-1D; 683777-14-2D; 723746-91-6D; 723746-94-9D; 723747-35-1D; 723747-41-9D; 723748-52-5D; 736994-60-8D; 736994-61-9D; 736994-63-1D; 736994-81-3D; 736994-82-4D; 750643-57-3D; 874967-67-6D; 875571-07-6D; 875571-08-7D; 875571-11-2D; 875655-14-4D (AVI 382); 875655-15-5D (Brofenvalerate); 875655-36-0D (Butylpyridaben); 875656-61-4D (FMC 1137); 875656-67-0D (NNI 0250); 875656-68-1D (NNI 0101); 875656-99-8D (R 1492); 875657-87-7D (SI 0009); 875658-61-0D (YI 5302); 875690-85-0D (Dinocap-4); 875695-92-4D (Dinocap-6); 881685-58-1D; 881914-21-2D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic fungicidal compns.)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: GB
Priority Application Number: 2004-22399
Priority Application Date: 20041008
Citations: Ehrenfreund, J; WO 2004058723 A 2004
Citations: Sumitomo Chem Co Ltd; JP 2001302605 A 2001
Citations: Ammermann, E; WO 2004004460 A 2004
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Citations: Eicken, K; WO 9739630 A 1997
Citations: Bayer, H; WO 9710716 A 1997

Citations: Eicken, K; WO 9708952 A 1997
Citations: Eicken, K; WO 9708148 A 1997 A method of controlling phytopathogenic diseases on useful plants or on plant propagation material comprises applying a pyridine deriv. I (R1 = alkyl, alkoxyalkyl or haloalkyl) or a I tautomer, in a mixts. with any of a very large no. of known fungicides and/or insecticides. [on SciFinder (R)] A01N043-40. A01P003-00; A01N061-00; A01N043-84; A01N043-653; A01N043-54; A01N043-36; A01N037-34; A01N037-20. synergism/ fungicide/ compn/ pyridine/ deriv

1359. Walter, Harald, Corsi, Camilla, Ehrenfreund, Josef, Lamberth, Clemens, and Tobler, Hans (20060413). Synergistic fungicidal compositions comprising a pyrazole derivative. 139 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 2006:342999
Chemical Abstracts Number: CAN 144:364541
Section Code: 5-2
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Terpenes Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (chloro-, mixts. with pyrazole derivs.; synergistic fungicidal compns.); Naphthenic acids Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (copper salts, mixts. with pyrazole derivs.; synergistic fungicidal compns.); Cedar (ext., mixts. with pyrazole derivs.; synergistic fungicidal compns.); Fats and Glyceridic oils Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (margosa, ext., mixts. with pyrazole derivs.; synergistic fungicidal compns.); Bacillus pumilus; Bacillus subtilis; Ryania; Trichoderma; Trichoderma harzianum; Trichoderma virens; Xanthomonas campestris vesicatoria (mixts. with pyrazole derivs.; synergistic fungicidal compns.); Cytokinins; Paraffin oils; Petroleum; Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. with pyrazole derivs.; synergistic fungicidal compns.); Quassia; Tar oils (mixts. with pyrazole derivs; synergistic fungicidal compns.); Fungicides (synergistic; compns. comprising a pyrazole deriv.); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, mixts. with pyrazole derivs.; synergistic fungicidal compns.)
CAS Registry Numbers: 688-73-3D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (Tributyltin; synergistic fungicidal compns.); 881685-73-0; 881685-74-1; 881685-75-2; 881685-76-3; 881685-77-4; 881685-78-5; 881685-79-6 Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic fungicidal compn.); 50-00-0D (Formaldehyde); 50-14-6D (Ergocalciferol); 50-29-3D; 50-65-7D (Niclosamide;); 51-03-6D (Piperonyl butoxide;); 51-14-9D (Sesamex); 52-46-0D (Apholate); 52-68-6D (Trichlorfon); 54-11-5D (Nicotine;); 56-35-9D (Bis(tributyltin)oxide;); 56-38-2D (Parathion); 56-72-4D (Coumaphos); 57-92-1D (Streptomycin); 58-89-9D (Lindane); 60-51-5D (Dimethoate); 62-73-7D (Dichlorvos); 63-25-2D (Carbaryl); 65-30-5D (Nicotine sulfate;); 66-81-9D (Cycloheximide); 67-66-3D (Chloroform); 67-97-0D (Cholecalciferol); 70-43-9D (Barthrin); 71-62-5D (Veratridine;); 72-56-0 (1,1-Dichloro-2,2-bis(4-ethylphenyl)ethane;); 74-83-9D (Methyl bromide); 74-88-4D (Iodomethane); 74-90-8D (Hydrogen cyanide;); 75-15-0D (Carbon disulfide); 76-06-2D (; Chloropicrin;); 76-44-8D (Heptachlor); 76-87-9D (Triphenyltin hydroxide); 78-34-2D (Dioxathion); 78-53-5D (Amiton); 78-87-5D (1,2-Dichloropropane;); 79-57-2D (Terramycin); 80-00-2D (4-Chlorophenyl phenyl sulfone); 80-06-8D (Chlorfenethol); 80-33-1D (Chlorfenson); 80-38-6D (Fenson); 81-81-2D (Warfarin); 81-82-3D (Coumachlor); 82-66-6D (Diphacinone;); 82-68-8D (Pentachloronitrobenzene); 83-26-1D (Pindone); 83-79-4D (Rotenone); 84-65-1D (Anthraquinone;); 84-74-2D (Dibutyl phthalate;); 86-50-0D (Azinphos methyl); 86-88-4D (ANTU); 87-47-8D (3-Methyl-1-phenylpyrazol-5-yl dimethylcarbamate;); 87-86-5D (Pentachlorophenol); 92-52-4D (Biphenyl); 93-15-2D (Methyleugenol); 93-75-4D (Thioquinox); 95-05-6D (Sulfiram); 97-16-5D; 97-53-0D (Eugenol); 97-77-8D (Disulfiram); 99-30-9D (Dichloran); 101-05-3D (Anilazine); 103-17-3D (Chlorbenside); 103-33-3D (Azobenzene); 104-55-2D (Cinnamaldehyde); 105-99-7D (Dibutyl adipate;); 107-04-0D (1-Bromo-2-chloroethane;);

107-13-1 (Acrylonitrile;); 107-49-3D (TEPP); 108-62-3D (Metaldehyde;); 112-80-1D (Oleic acid;); 113-48-4D (MGK 264;); 114-26-1D (Propoxur); 115-26-4D (Dimefox); 115-29-7D (Endosulfan); 115-32-2D (Dicofol); 116-01-8D (Ethoate-methyl); 116-06-3D (Aldicarb); 116-29-0D (Tetradiphon); 117-18-0D (Tecnazene); 117-52-2D (Coumafuryl;); 117-80-6D (Dichlone); 118-74-1D (Hexachlorobenzene); 119-12-0D (Pyridaphenthion); 120-51-4D (Benzyl benzoate); 120-62-7D (Sulfoxide;); 120-93-4D (2-Imidazolidone;); 121-20-0D (Cinerin II); 121-21-1D (Pyrethrin I); 121-29-9D (Pyrethrin II); 121-75-5D (Malathion); 122-15-6D; 126-75-0D (Demeton-s); 127-09-3D (Sodium acetate); 127-63-9D (Diphenyl sulfone); 127-90-2D (S421); 131-11-3D (Dimethyl phthalate;); 131-89-5D (Dinex); 133-07-3D (Folpet); 134-31-6D (8-Hydroxyquinoline sulfate); 134-62-3D (Diethyltoluamide); 135-58-0D (Mesulfen); 137-30-4D (Ziram); 137-40-6D (Sodium propionate); 140-56-7D (Fenaminosulf); 140-57-8D (Aramite); 141-03-7D (Dibutyl succinate); 141-66-2D (Dicrotophos); 144-41-2D (Morphothion); 144-55-8D (Sodium bicarbonate); 148-79-8D (Thiabendazole); 152-16-9D (Schradan); 298-00-0D (Parathionmethyl;); 298-02-2D (Phorate); 298-03-3D (Demeton-O); 298-04-4D (Disulfoton); 298-14-6D (Potassium bicarbonate); 300-76-5D (Naled); 301-11-1D (2-Thiocyanatoethyl laurate;); 302-49-8D (Uredepa); 309-00-2D (Aldrin); 311-47-7D (2-Chlorovinyl diethyl phosphate;); 315-18-4D (Mexacarbate); 317-83-9D (Dinex-diclexine); 333-20-0D (Potassium thiocyanate;); 333-41-5D (Diazinon); 371-86-8D (Mipafox); 405-30-1D (Fluorbenside); 470-90-6D (Chlorfenvinphos); 471-47-6D; 483-63-6D (Crotamiton); 485-31-4D (Binapacryl); 494-52-0D (Anabasine;); 500-28-7D; 504-24-5D (4-Pyridinamine); 507-60-8D (Scilliroside); 510-15-6D (Chlorobenzilate); 525-79-1D (Kinetin;); 526-07-8D (Sesamolin); 532-34-3D (Butopyronoxyl); 533-74-4D (Dazomet); 534-52-1D (DNOC); 535-89-7D (Crimidine); 555-89-5D (DCPM); 556-22-9D (Glyodin); 563-12-2D (Ethion); 584-79-2D (Bioallethrin); 592-01-8D (Calcium cyanide); 594-72-9D (1,1-Dichloro-1-nitroethane;); 639-58-7D (Fentin chloride); 640-15-3D (Thiometon); 640-19-7D (Fluoroacetamide); 671-04-5D (Carbanolate); 682-80-4D (Demephion-O); 731-27-1D (Tolylfluanide); 732-11-6D (Phosmet); 780-11-0D (Terbam); 786-19-6D (Carbophenothion); 867-27-6D (Demeton-O-methyl); 900-95-8D (Fentin acetate); 919-54-0D (Acethione;); 919-76-6D (Amidithion); 919-86-8 (Demeton-S-methyl); 947-02-4D (Phospholan); 950-10-7D (Mephosfolan); 950-37-8D (Methidathion); 973-21-7D (Dinobuton); 991-42-4D (Norbormide;); 999-81-5D (Chlormequat chloride); 1031-47-6D; 1085-98-9D (Dichlofluanid); 1113-02-6D (Omethoate); 1121-30-8D; 1129-41-5D (Metolcarb); 1172-63-0D (Jasmolin II); 1303-96-4D (Borax); 1305-62-0D (Hydrated lime); 1314-84-7D (Zinc phosphide;); 1327-53-3D (Arsenous oxide); 1332-40-7D (Copper oxychloride;); 1344-81-6D (Calcium polysulfide); 1420-04-8D (Niclosamide ethanolamine salt); 1563-66-2D (Carbofuran); 1569-60-4D (Sulcatol;); 1646-88-4D (Aldoxycarb); 1715-40-8D (Bromocyclen); 1776-83-6D (Quinthiophos); 1897-45-6D (Chlorothalonil); 2032-59-9D (Aminocarb); 2032-65-7D (Methiocarb); 2079-00-7D (Blasticidin-S); 2104-64-5D (EPN); 2104-96-3D (Bromophos); 2168-68-5D (Morzid); 2227-13-6D (Tetrasul); 2227-17-0D (Dienochlor); 2274-74-0D (Chlorfensulfide); 2275-14-1D (Phenkapton); 2275-18-5D (Prothoate); 2310-17-0D (Phosalone); 2312-35-8D (Propargite); 2425-06-1D (Captafol); 2425-10-7D (Xylylcarb); 2425-20-9D (Siglure); 2439-01-2D (Chinomethionat); 2439-10-3D (Dodine); 2497-07-6D (Oxydisulfoton); 2540-82-1D (Formothion); 2587-90-8D (Demephion-S); 2593-15-9D (Etridiazole); 2595-54-2D (Mecarbam); 2597-03-7D (Phenthoate); 2642-71-9D (Azinphos ethyl); 2655-14-3D (XMC;); 2668-92-0D; 2674-91-1D (Oxydeprofos); 2675-77-6D (Chloroneb); 2778-04-3D (Endothion); 2921-88-2D (Chlorpyrifos); 3244-90-4D; 3347-22-6D (Dithianon); 3547-33-9D (2-(Octylthio)ethanol;); 3572-06-3D (Cuelure); 3604-87-3D; 3653-39-2D (Hexamide); 3689-24-5D (Sulfotep); 3691-35-8D (Chlorophacinone;); 3734-95-0D (Cyanthoate); 3734-97-2D (Amiton oxalate); 3737-00-6D (3-Bromo-1-chloroprop-1-ene;); 3878-19-1D (Fuberidazole); 4104-14-7D (Phosacetim;); 4151-50-2D (Sulfluramid); 4301-50-2D (Fluenetil); 4466-14-2D (Jasmolin I); 4824-78-6D (Bromophos-ethyl); 5221-49-8D (Pyrimitate); 5221-53-4D (Dimethirimol); 5234-68-4D (Carboxin); 5259-88-1D (Oxycarboxin); 5289-74-7D (Ecdysterone); 5386-57-2D (Dinopenton); 5386-77-6D (Dinosulfon); 5598-13-0D (Chlorpyrifos-methyl); 5748-20-9D (Trimedlure B1;); 5748-21-0D (Trimedlure B2;); 5748-22-1D (Trimedlure A;); 5748-23-2D (Trimedlure C); 5834-96-8D (Azothoate); 5836-10-2D (Chloropropylate); 5903-13-9D; 6012-83-5D; 6073-72-9D (Dinoterbon); 6164-98-3D (Chlordimeform); 6392-46-7D (Allyxycarb;); 6923-22-4D (Monocrotophos); 6980-18-3D (Kasugamycin); 7076-53-1D; 7439-97-6D (Mercury); 7440-50-8D (Copper); 7487-94-7D (Mercuric chloride); 7561-71-9D (Trinactin); 7664-38-2D

(Phosphoric acid); 7700-17-6D (Crotoxyphos); 7704-34-9D (Sulfur); 7723-14-0D (Phosphorus); 7758-98-7D (Copper sulfate); 7778-44-1D (Calcium arsenate;); 7782-50-5D (Chlorine); 7784-40-9D (Lead arsenate;); 7784-46-5D (Sodium arsenite;); 7786-34-7D (Mevinphos); 7803-51-2D (Phosphine); 8001-35-2D (Camphechlor); 8003-19-8 (1,2-Dichloropropane-1,3-dichloropropene mixt.); 8011-63-0D (Bordeaux mixt); 8018-01-7D (Mancozeb); 8022-00-2D (Demeton-methyl); 8065-36-9D (Bufencarb;); 8065-48-3D (Demeton); 8065-62-1D (Demephion); 9003-13-8D (Butoxy(polypropylene glycol); 9006-42-2D (Metiram); 10004-44-1D (Hymexazole); 10045-86-0D (Ferric phosphate); 10108-64-2D (Cadmium chloride); 10124-50-2D (Potassium arsenite); 10265-92-6D (Methamidophos); 10311-84-9D (Dialifos); 10380-28-6D (Oxine copper); 10402-16-1D (Copper oleate); 10537-47-0D (Malonoben); 10605-21-7D (Carbendazim); 11096-18-7D (Cufraneb); 11104-05-5D (Grandlure); 11113-64-7D (Imanin); 11113-80-7D (Polyoxin); 11136-48-4D (BAS 3201); 11141-17-6D (Azadirachtin;); 12002-03-8D (C.I. Pigment Green 21); 12002-53-8D (Trimedlure); 12071-83-9D (Propineb); 12122-67-7D (Zineb); 12427-38-2D (Maneb); 12789-45-6D (Methyl phosphate); 13121-70-5D (Cyhexatin); 13171-21-6D (Phosphamidon); 13356-08-6D (Fenbutatin oxide); 13410-01-0D (Sodium selenate); 13457-18-6D (Pyrazophos); 13516-27-3D (Iminoctadine); 13593-03-8D (Quinalfos); 14088-71-2D (Proclonol); 14168-01-5D (Dilor;); 14202-66-5D (Amidothioate); 14255-88-0D (Fenazaflor); 14484-64-1D (Ferbam); 14698-29-4D (Oxolinic acid); 14816-18-3D (Phoxim); 14959-86-5D; 15263-52-2D (Cartap hydrochloride;); 15263-53-3D (Cartap;); 15310-01-7D (Benodanil); 15339-36-3D (Manganous dimethyldithiocarbamate); 15584-04-0D (Arsenate); 15589-31-8D (Terallethrin); 15662-33-6D (Ryanodine;); 16672-87-0D (Ethephon); 16725-53-4D; 16752-77-5D (Methomyl); 16759-59-4D (Benoxafos); 16908-48-8D (RA-17); 16974-34-8D; 17040-19-6D; 17109-49-8D (Edifenphos); 17125-80-3D (Barium hexafluorosilicate); 17702-57-7D (Formparanate); 17804-35-2D (Benomyl); 18181-70-9D (Iodofenphos); 18181-80-1D (Bromopropylate); 19622-19-6D (Prothiocarb); 19691-80-6D (Athidathion); 19750-95-9D (Chlordimeform hydrochloride); 19764-43-3D (Methoquinbutyl); 20261-85-2D (Dinactin); 20276-83-9D (Prothidathion); 20290-99-7D (Brevicomin); 20425-39-2D (Pyresmethrin); 20427-59-2D (Copper hydroxide); 20543-04-8D (Copper octanoate); 21564-17-0D (TCMTB); 21709-44-4D; 21757-82-4 (2,2,2-Trichloro-1-(3,4-dichlorophenyl)ethyl acetate;); 21908-53-2D (Mercuric oxide;); 22224-92-6D (Fenamiphos); 22248-79-9D (Tetrachlorvinphos); 22259-30-9D (Formetanate); 22431-62-5D (Bioethanomethrin;); 23135-22-0D (Oxamyl); 23192-42-9D (Hexalure); 23400-52-4D (Megatomoic acid); 23422-53-9D (Formetanate hydrochloride); 23504-07-6D; 23526-02-5D (Thuringiensin); 23560-59-0D (Heptenophos); 23564-05-8D (Thiophanate-methyl); 23564-06-9D (Thiophanate); 23947-60-6D (Ethirimol); 24017-47-8D (Triazophos); 24307-26-4 (Mepiquat chloride); 24353-61-5D (Isocarbophos); 24579-73-5D (Propamocarb); 24691-80-3D (Fenfuram); 24934-91-6D; 25171-63-5D (Thiocarboxime); 25402-06-6D (Cinerin I); 26087-47-8D (Iprobenfos); 26530-20-1D (Octhilinone); 26532-22-9D (Grandlure I;); 26532-23-0D (Grandlure II;); 26532-24-1D (Grandlure III); 26532-25-2D (Grandlure IV;); 26532-95-6D (Tetradec-11-en-1-yl acetate;); 26644-46-2D (Triforine); 26952-23-8D (Dichloropropene); 27355-22-2D (Fthalide); 27519-02-4D (Muscalure); 27605-76-1D (Probenazole); 28217-97-2D (Chlormethiuron); 28401-39-0D (Frontalin); 28772-56-7D (Bromadiolone;); 29104-30-1D (Benzoximate); 29232-93-7D (Pirimiphos-methyl); 29656-68-6D (Ethyl hexanediol;); 29672-19-3D (Nitrilacarb); 29804-22-6D (Disparlure); 30507-70-1D; 30525-89-4D (Paraformaldehyde); 30864-28-9D (Methacrifos); 31218-83-4D (Propetamphos); 32809-16-8D (Procymidone); 33089-61-1D (Amitraz); 33956-49-9D (Codlemone); 33956-61-5D (Tetranactin); 34010-21-4D; 34264-24-9D (Promacyl); 34681-10-2D (Butocarboxim); 34681-23-7D (Butoxycarboxim); 35153-15-2D; 35575-96-3D (Azamethiphos); 35628-00-3D (Ipsdienol;); 35628-05-8D (Ipsenol); 36734-19-7D (Iprodione); 36791-04-5D (Ribavirin;); 37032-15-8D (Sophamide); 37338-40-2D; 37407-77-5D (Chlormebuform); 37893-02-0D (Flubenzimine); 38260-54-7D (Etrimfos); 38524-82-2D (Trifenofos); 39148-24-8D (Fosetyl-aluminum); 39196-18-4D (Thiofanox); 39285-04-6D (Polynactin); 39300-45-3D (Dinocap); 39515-41-8D (Fenpropathrin); 39589-98-5D (Dimethyl carbate;); 39603-48-0D (Bisthiosemi); 40085-57-2D (Tazimcarb); 41083-11-8D (Azocyclotin); 41198-08-7D (Profenofos); 41483-43-6D (Bupirimate); 41814-78-2D (Tricyclazole); 42873-80-3D (Dofenapyn); 50471-44-8D (Vinclozolin); 50512-35-1D (Isoprothiolane); 50642-14-3D (Validamycin); 50767-79-8D; 50933-33-0D (Gossyplure); 51487-69-5D (Cloethocarb); 51596-10-2D (Milbemectin); 51630-58-1D (Fenvalerate); 52315-07-8D (Cypermethrin); 52645-53-1D

(Permethrin); 53231-49-5D (Copper ammonium carbonate); 53558-25-1D (Pyrinuron;); 53939-28-9D; 54364-62-4D; 54460-46-7D (Hexadecyl cyclopropanecarboxylate); 54815-06-4D (a-Multistriatin); 55179-31-2D (Bitertanol); 55406-53-6D (Iodocarb); 55814-41-0D (Mepronil); 56073-07-5D (Difenacoum;); 56073-10-0D (Brodifacoum;); 56196-53-3D (Oryctalure); 57018-04-9D (Tolclofos-methyl); 57369-32-1D (Pyroquilon); 57646-30-7D (Furalaxyl); 57808-65-8D (Closantel); 57837-19-1D (Metalaxyl); 57960-19-7D (Acequinocyl); 57966-95-7D (Cymoxanil); 58769-20-3D (RU 15525;); 58810-48-3D (Ofurace); 59669-26-0D (Thiodicarb); 60168-88-9D (Fenarimol); 60238-56-4D (Chlorthiophos); 60799-74-8D (Litlure); 61444-62-0D (Nifluridide); 61676-87-7D (CGA 50439); 61949-77-7D (trans-Permethrin); 62441-54-7D (Fentrifanil); 62850-32-2D (Fenothiocarb); 62865-36-5D (Diclomezine); 63284-71-9D (Nuarimol); 63333-35-7D (Bromethalin;); 63408-44-6D; 63771-69-7D (Zolaprofos); 64726-91-6D (Japonilure); 65035-34-9D (Lineatin); 65128-96-3D; 65691-00-1D (Triarathene); 66063-05-6D (Pencycuron); 66332-96-5D (Flutolanil); 66952-49-6D (Methasulfocarb); 67375-30-8D; 68085-85-8D (Cyhalothrin); 69327-76-0D (Buprofezin); 69409-94-5D (Fluvalinate); 69770-45-2D (Flumethrin); 70124-77-5D (Flucythrinate); 70288-86-7D (Ivermectin); 70630-17-0D (Mefenoxam); 71626-11-4D (Benalaxyl); 71751-41-2D (Abamectin); 72269-48-8D; 72459-58-6D (Triazoxide); 74115-24-5D (Clofentezine); 75491-92-8D (RU 25475;); 76280-91-6D (Tecloftalam); 76738-62-0D; 77732-09-3D (Oxadixyl); 78587-05-0D (Hexythiazox); 78617-58-0D; 79622-59-6D (Fluazinam); 79983-71-4D (Hexaconazole); 80060-09-9D (Diafenthiuron); 80510-15-2D (Dominicalure 1); 81613-59-4D (Flupropadine); 81613-60-7D (Flupropadine hydrochloride;); 82657-04-3D (Bifenthrin); 83212-30-0D; 84332-86-5D (Chlozolinate); 84466-05-7D (Amidoflumet); 86003-55-6D (Nikkomycin); 86811-58-7D (Fluazuron); 87130-20-9D (Diethofencarb); 88283-41-4D (Pyrifenox); 89269-64-7D (Ferimzone); 90035-08-8D (Flocoumafen;); 93091-95-3D; 95266-40-3D (Trinexapac-ethyl); 95465-99-9D (Cadusafos;); 96489-71-3D (Pyridaben); 96645-86-2D (Trunccall;); 98243-83-5D (Benalaxyl-M); 101007-06-1D (Acrinathrin); 101463-69-8D (Flufenoxuron); 101903-30-4D (Pefurazoate); 102851-06-9D (Tau-fluvalinate); 103055-07-8D (Lufenuron); 103782-08-7D (Allosamidin;); 104030-54-8D (Carpropamid); 104078-12-8D (Dinocton); 104653-34-1D (Difethialone;); 105425-52-3D; 105700-87-6D; 105726-67-8D (Methylneodecanamide); 105779-78-0D (Pyrimidifen); 106855-58-7D (GL-21); 106917-52-6D (Flusulfamide); 108173-90-6D (Guazatine); 108307-07-9D (SSI-121); 110488-70-5D (Dimethomorph); 111872-58-3D (Halfenprox); 112143-82-5D (Triazuron); 113036-88-7D (Flucycloxuron); 113507-06-5D (Moxidectin); 115852-48-7D (Fenoxanil); 117704-25-3D (Doramectin); 118712-89-3D (Transfluthrin); 119168-77-3D (Tebufenpyrad); 119515-38-7D (Picaridin); 120068-37-3D (Fipronil); 120116-88-3D (Cyazofamid); 120928-09-8D (Fenazaquin); 120955-77-3D (NC-184); 122453-73-0D (Chlorfenapyr); 123572-88-3D (Furametpyr); 123997-26-2D (Eprinomectin); 124495-18-7D (Quinoxyfen); 125271-99-0D; 126833-17-8D (Fenhexamid); 127277-53-6D (Prohexadione calcium); 129496-10-2D; 130000-40-7D (Thifluzamide); 130339-07-0D (Diflumetorim); 131807-57-3D (Famoxadone); 134098-61-6D (Fenpyroximate); 135158-54-2D (Acibenzolar-S-methyl); 139920-32-4D (Diclocymet); 140923-17-7D (Iprovalicarb); 143390-89-0D (Kresoxim-methyl); 145767-97-1D (Vaniliprole); 146659-78-1D (Polyoxin D zinc salt); 148477-71-8D (Spirodiclofen); 149877-41-8D (Bifenazate); 153233-91-1D (Etoxazole); 156052-68-5D (Zoxamide); 160791-64-0D (ZXI 8901); 161326-34-7 (Fenamidone); 161326-34-7D (Fenamidone); 162320-67-4D (SZI-121); 162490-88-2D (Sordidin;); 162650-77-3D (Ethaboxam); 163269-30-5D (Bethoxazin); 175217-20-6D (Silthiofam); 179101-81-6D (Pyridalyl;); 180409-60-3D; 183675-82-3D (Penthiopyrad); 185676-84-0D (MB 599); 188425-85-6D (Boscalid); 189278-12-4D (Proquinazid); 199062-81-2D (AZ 60541); 201593-84-2D (Bistrifluron); 209861-58-5D (Acetoprole); 220119-17-5D (Selamectin); 220899-03-6D (Metrafenone); 221201-92-9D; 229977-93-9D (Fluacrypyrim); 239110-15-7D; 255725-89-4D (Dicliphos); 272451-61-3D; 283594-90-1D (Spiromesifen); 325156-49-8D; 333385-29-8D; 348635-87-0D; 374704-75-3D; 374726-62-2D; 413615-35-7D (Benthiavalicarb); 438450-41-0D; 500007-97-6D; 500008-00-4D; 500008-18-4D; 500008-20-8D; 500008-29-7D; 500008-36-6D; 500008-44-6D; 500008-45-7D; 500008-54-8D; 500008-55-9D; 500008-56-0D; 500008-60-6D; 500008-62-8D; 500008-66-2D; 500008-67-3D; 500008-74-2D; 500008-75-3D; 500010-08-2D; 500010-10-6D; 500011-03-0D; 599194-51-1D; 599197-38-3D; 683776-96-7D; 683777-13-1D; 683777-14-2D; 723746-91-6D; 723746-94-9D; 723747-35-1D; 723747-41-9D; 723748-52-5D; 736994-60-8D; 736994-61-9D; 736994-63-1D; 736994-81-3D; 736994-82-4D; 874967-67-6D; 875571-07-6D; 875571-08-7D;

875571-10-1D; 875571-11-2D; 875653-90-0D (Bacillus subtilis-PCNB-metalaxyl mixt.); 875655-14-4D (AVI 382); 875655-15-5D (Brofenvalerate); 875655-36-0D (Butylpyridaben); 875656-61-4D (FMC 1137); 875656-67-0D (NNI 0250); 875656-68-1D (NNI 0101); 875656-99-8D (R 1492); 875657-87-7D (SI 0009); 875658-61-0D (YI 5302); 875690-85-0D (Dinocap-4); 875695-92-4D (Dinocap-6); 881685-58-1D; 881685-72-9D Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic fungicidal compns.)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: GB
Priority Application Number: 2004-22400
Priority Application Date: 20041008
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Citations: Dunkel, R; WO 03070705 A 2003
Citations: Walter, H; WO 0142223 A 2001
Citations: Eicken, K; WO 9708148 A 1997 Synergistic fungicidal compns. comprise a pyrazole deriv. I (R1 = difluoromethyl or trifluoromethyl; R2 = alkyl, alkoxyalkyl or haloalkyl) or a I tautomer and any of a very large no. of known fungicides and/or insecticides. [on SciFinder (R)] A01N043-56. A01P003-00; A01N061-00; A01N043-84; A01N043-653; A01N043-54; A01N043-40; A01N043-36; A01N037-34; A01N037-20. synergism/ fungicide/ compn/ pyrazole/ deriv

1360. Walter, Harald, Neuenschwander, Urs, Zeun, Ronald, Ehrenfreund, Josef, Tobler, Hans, Corsi, Camilla, and Lamberth, Clemens (20060216). Synergistic fungicidal compositions comprising pyrazole derivatives. 104 pp.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: PATENT.

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Database: CAPLUS
Accession Number: AN 2006:151202
Chemical Abstracts Number: CAN 144:207363
Section Code: 5-2
Section Title: Agrochemical Bioregulators
Coden: PIXXD2
Index Terms: Terpenes Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (chloro-, mixts. with pyrazole derivs.; synergistic fungicidal compns.); Polygonum sachalinense (ext., mixts. with pyrazole derivs.; synergistic fungicidal compns.); Fats and Glyceridic oils Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (margosa, mixts. with pyrazole derivs.; synergistic fungicidal compns.); Bacillus pumilus; Bacillus thuringiensis; Quassia; Schoenocaulon; Tar oils; Trichoderma; Trichoderma harzianum; Trichoderma virens; Xanthomonas campestris vesicatoria (mixts. with pyrazole derivs.; synergistic fungicidal compns.); Arsenates; Cytokinins; Epoxides; Paraffin oils; Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (mixts. with pyrazole derivs.; synergistic fungicidal compns.); Petroleum products (oils, mixts. with pyrazole derivs.; synergistic fungicidal compns.); Fungicides (synergistic; compns. comprising pyrazole derivs.); Toxins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-endotoxins, mixts. with pyrazole

derivs.; synergistic fungicidal compns.)
CAS Registry Numbers: 101903-30-4D (Pefurazoate) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (7synergistic fungicidal compns.); 56196-53-3D (Oryctalure) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (Et 4-methyloctanoate; synergistic fungicidal compns.); 95465-99-9D (Sebuphos) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (Sebufos, Cadusafos; synergistic fungicidal compns.); 5748-23-2D (Trimedlure C) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (Trimedlure C; synergistic fungicidal compns.); 7696-12-0D (d-Tetramethrin;) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (d-Tetramethrin;; synergistic fungicidal compns.); 50-00-0D (Formaldehyde); 50-14-6D (Ergocalciferol;); 50-29-3D (DDT); 51-03-6D (Piperonyl butoxide;); 51-14-9D (Sesamex); 51-18-3D (Tretamine;); 52-24-4D (Thiotepa); 52-46-0D (Apholate;); 52-51-7D (Bronopol); 52-68-6D; 52-85-7D (Famphur); 54-11-5D (Nicotine); 54-64-8D (Thiomersal); 55-38-9D (Fenthion); 55-98-1D (Busulfan;); 56-23-5D (Carbon tetrachloride;); 56-35-9D (Bis(tributyltin)oxide;); 56-38-2D (Parathion); 56-72-4D (Coumaphos;); 57-24-9D (Strychnine); 57-39-6D (Metepa); 57-92-1D (Streptomycin;); 58-89-9D (Lindane;); 60-51-5D (Dimethoate); 60-57-1D (Dieldrin); 62-73-7D (Dichlorovos;); 63-25-2D (Carbaryl); 65-30-5D (Nicotine sulfate); 66-81-9D (Cycloheximide;); 67-66-3D (Chloroform); 67-97-0D (Cholecalciferol); 70-38-2D (Dimethrin;); 70-43-9D (Barthrin); 71-62-5D (Veratrine); 72-00-4D (2,2-Dichlorovinyl diethyl phosphate); 72-20-8D (Endrin;); 72-54-8D (TDE;); 72-56-0D (1,1-Dichloro-2,2-bis(4-ethylphenyl)ethane); 74-83-9D (Methyl bromide;); 74-88-4D (Iodomethane); 75-09-2 (Methylene chloride;); 75-15-0D (Carbon disulfide); 76-06-2D (Chloropicrin;); 76-87-9D (Triphenyltin hydroxide); 76-96-0D (Methiotepa); 78-34-2D (Dioxathion); 78-53-5D (Amiton;); 78-57-9D (Menazon;); 78-87-5D (1,2-Dichloropropane); 79-34-5D (Tetrachloroethane;); 79-57-2D (Terramycin); 80-00-2D (4-Chlorophenyl phenyl sulfone); 80-33-1D (Chlorfenson;); 80-38-6D (Fenson); 81-81-2D (Warfarin); 82-66-6D (Diphacinone;); 82-68-8D (Quintozene); 83-26-1D (Pindone;); 83-28-3D (2-Isovalerylindan-1,3-dione); 83-59-0D (Propyl isome); 83-79-4D (Rotenone); 84-65-1D (Anthraquinone); 84-74-2D (Dibutyl phthalate); 86-50-0D (Azinphosmethyl;); 86-88-4D (Antu); 87-47-8D (3-Methyl-1-phenylpyrazol-5-yl dimethylcarbamate;); 87-86-5D (Pentachlorophenol;); 91-20-3D (Naphthalene); 92-52-4D (Biphenyl); 93-15-2D (Methyleugenol;); 93-75-4D (Thioquinox); 95-05-6D (Sulfiram); 96-12-8D (DBCP); 97-11-0D (Cyclethrin); 97-16-5D (2,4-Dichlorophenyl benzenesulfonate;); 97-23-4D (Dichlorophen); 97-53-0D (Eugenol;); 97-77-8D (Disulfiram); 99-30-9D (Dicloran;); 101-05-3D (Anilazine;); 103-17-3D (Chlorbenside;); 103-33-3D (AZobenzene;); 104-55-2D (Cinnamaldehyde;); 105-99-7D (Dibutyl adipate); 106-46-7D (Paradichlorobenzene;); 106-93-4D (Ethylene dibromide;); 107-04-0D (1-Bromo-2-chloroethane;); 107-06-2D (Ethylene dichloride;); 107-13-1D (ACrylonitrile); 107-49-3D (TEPP); 108-60-1D (DCIP;); 108-62-3D (Metaldehyde); 109-94-4D (Ethyl formate;); 110-85-0D (Piperazine); 112-56-1 (2-(2-Butoxyethoxy)ethyl thiocyanate;); 112-80-1D (Oleic acid); 113-48-4D (MGK 264;); 114-26-1D (Propoxur); 115-26-4D (Dimefox); 115-29-7D (Endosulfan); 115-32-2D (Dicofol;); 115-93-5D (Cythioate); 116-01-8D (Ethoatemethyl); 116-06-3D (Aldicarb); 116-29-0D (Tetradifon); 117-18-0D (Tecnazene); 117-80-6D (Dichlone); 118-74-1D (Hexachlorobenzene); 119-12-0D (Pyridaphenthion); 120-51-4D (Benzyl benzoate); 120-62-7D (Sulfoxide); 120-93-4D (2-Imidazolidone); 121-20-0D (Cinerin II;); 121-21-1D (Pyrethrin I); 121-29-9D (Pyrethrin II;); 121-75-5D; 122-14-5D (Fenitrothion;); 122-15-6D; 122-34-9D (Simazine;); 126-22-7D (Butonate;); 126-75-0D (Demeton-S;); 126-96-5D (Sodium diacetate); 127-63-9D (Diphenyl sulfone); 127-90-2D (S421); 131-11-3D (Dimethyl phthalate;); 131-89-5D (Dinex); 133-06-2D (Captan;); 133-07-3D (Folpet;); 134-31-6D (8-Hydroxyquinoline sulfate;); 134-62-3D (Diethyltoluamide); 135-58-0D (Mesulfen;); 136-63-0D (Bucarpolate); 137-26-8D (Thiram); 137-30-4D (Ziram;); 137-40-6D (Sodium propionate); 137-41-7D; 137-42-8D (Metamsodium); 140-56-7D (Fenaminosulf;); 140-57-8D (Aramite); 140-89-6D (Potassium ethylxanthate;); 141-03-7D (Dibutyl succinate); 141-66-2D (Dicrotophos); 142-59-6D (Nabam); 143-50-0D; 144-41-2D (Morphothion); 144-55-8D (Sodium bicarbonate); 145-73-3D; 148-79-8D (Thiabendazole); 152-16-9D (Schradan); 297-78-9D (Isobenzan;); 298-02-2D (Phorate); 298-03-3D (Demeton-O;); 298-04-4D (Disulfoton); 298-14-6D (Potassium bicarbonate); 299-84-3D; 299-86-5D (Crufomate); 300-76-5D (Naled;); 301-11-1D (2-Thiocyanatoethyl laurate;); 301-12-2D (Oxydemeton-methyl); 302-49-8D (Uredepa); 309-00-2D (HHDN); 315-18-4D (Mexacarbate;); 317-83-9D (Dinex-diclexine); 327-98-0D (Trichloronat);

333-20-0D (Potassium thiocyanate); 333-41-5D; 371-86-8D (Mipafox;); 405-30-1D (Fluorbenside); 465-73-6D (Isodrin); 470-90-6D; 483-63-6 (Crotamiton;); 485-31-4D (Binapacryl); 494-97-3D (Nornicotine;); 500-28-7D; 502-55-6D (EXD); 504-24-5D (4-Pyridinamine); 510-15-6D (Chlorbenzylate); 513-77-9D (Barium carbonate;); 526-07-8D (Sesamolin); 532-34-3D (Butopyronoxyl); 533-74-4D (Dazomet;); 534-52-1D (DNOC;); 535-89-7D (Crimidine); 542-75-6D (1,3-Dichloropropene); 545-55-1D (Tepa); 555-89-5D (DCPM;); 556-22-9D (Glyodin); 558-25-8D (Methanesulfonyl fluoride); 563-12-2D (Ethion); 584-79-2D (Bioallethrin); 592-01-8D (Calcium cyanide;); 594-72-9D (1,1-Dichloro-1-nitroethane;); 608-73-1D (HCH); 639-58-7D (Fentin chloride); 640-15-3D (Thiometon); 644-06-4D (Precocene II;); 645-05-6D (Hemel;); 668-34-8D (Fentin;); 671-04-5D (Carbanolate); 680-31-9D (Hempa); 682-80-4D (Demephion-O;); 683-57-8D (Bromoacetamide;); 731-27-1D (Tolylfluanid;); 732-11-6D (Phosmet); 780-11-0D (Terbam); 786-19-6D (Carbophenothion); 867-27-6D (Demeton-O-methyl); 919-54-0D (Acethion); 919-76-6D (Amidithion); 919-86-8D (Demeton-S-methyl); 947-02-4D (Phosfolan); 950-10-7D (Mephosfolan;); 950-37-8D (Methidathion); 973-21-7D (Dinobuton); 991-42-4D (Norbormide;); 1031-47-6D (Triamiphos); 1085-98-9D (Dichlofluanid;); 1113-02-6D (Omethoate); 1121-30-8D; 1129-41-5D (Metolcarb;); 1172-63-0D (Jasmolin II); 1303-96-4D (Borax); 1305-62-0D (Hydrated lime;); 1319-77-3D (Cresol;); 1327-53-3D (Arsenous oxide); 1344-81-6D (Calcium polysulfide); 1563-66-2D (CArbofuran;); 1569-60-4D (Sulcatol); 1593-77-7D (Dodemorph); 1637-39-4D (Zeatin;); 1646-88-4D (Aldoxycarb;); 1715-40-8D (Bromocyclen;); 1754-58-1D (Diamidafos;); 1776-83-6D (Quintiofos;); 1897-45-6D (Chlorothalonil;); 1929-82-4D (Nitrapyrin); 2032-59-9D (Aminocarb;); 2032-65-7D (Methiocarb;); 2079-00-7D (Blasticidin-S;); 2104-64-5D (EPN); 2104-96-3D (Bromophos); 2168-68-5D (Morzid); 2227-13-6D (Tetrasul); 2227-17-0D (Dienochlor); 2274-74-0D (Chlorfensulfide;); 2275-14-1D (Phenkapton;); 2275-18-5D (Prothoate;); 2275-23-2D (Vamidothion); 2310-17-0D (Phosalone); 2312-35-8D (Propargite;); 2385-85-5D (Mirex;); 2425-06-1D (Captafol); 2425-20-9D (Siglure); 2439-10-3D (Dodine;); 2497-07-6D (Oxydisulfoton); 2515-62-0D (DSP); 2540-82-1D (Formothion); 2550-75-6D (Chlorbicyclen); 2587-90-8D (Demephion-S;); 2593-15-9D (Etridiazole;); 2595-54-2D (Mecarbam;); 2597-03-7D (Phenthoate); 2633-54-7D (Trichlorometaphos-3;); 2642-71-9D (Azinphosethyl;); 2668-92-0D (BAY 22408); 2674-91-1D (Oxydeprofos); 2675-77-6D (; Chloroneb); 2699-79-8D (Sulfuryl fluoride); 2778-04-3D (Endothion); 2797-51-5D (Quinoclamine); 2921-88-2D (Chloropyrifos); 3347-22-6D (Dithianone); 3527-55-7D (Methyl apholate); 3547-33-9D (2-(Octylthio)ethanol;); 3572-06-3D (Cuelure;); 3604-87-3D; 3653-39-2D (Hexamide); 3689-24-5D (Sulfotep); 3696-28-4D (Dipyrithione); 3732-82-9D (Thiohempa); 3734-95-0D (Cyanthoate); 3734-97-2D; 3737-00-6D (3-Bromo-1-chloroprop-1-ene;); 3761-41-9D (Mesulfenfos); 3766-81-2D (Fenobucarb;); 3810-74-0D (Streptomycin sesquisulfate); 3811-49-2D (Dioxabenzofos;); 3878-19-1D (Fuberidazole); 3890-89-9D (Copper dioctanoate;); 4151-50-2D (Sulfluramid); 4234-79-1D (Kelevan;); 4301-50-2D (Fluenetil); 4466-14-2D (Jasmolin I;); 4824-78-6D (Bromophosethyl;); 5221-49-8D (Pyrimitate); 5221-53-4D (Dimethirimol); 5234-68-4D (Carboxin); 5259-88-1D (Oxycarboxin;); 5281-13-0D (Piprotal); 5289-74-7D (Ecdysterone;); 5386-57-2D (Dinopenton); 5386-77-6D (Dinosulfon); 5598-13-0D; 5598-52-7D (Fospirate;); 5748-20-9D (Trimedlure B1); 5748-21-0D (Trimedlure B2); 5748-22-1D (Trimedlure A); 5825-79-6D (2-(4-Chloro-3,5-xylyloxy)ethanol;); 5827-05-4D (IPSP); 5834-96-8D (Azothoate); 5836-10-2D (Chloropropylate;); 5836-29-3D (Coumatetralyl;); 5903-13-9D (2-Fluoro-N-methyl-N-1-naphthylacetamide;); 5989-27-5D; 6012-83-5D; 6073-72-9D (Dinoterbon); 6164-98-3D (Chlordimeform); 6843-97-6D (Dodicin;); 6923-22-4D (Monocrotophos;); 6980-18-3D (Kasugamycin;); 6988-21-2D (Dioxacarb;); 7122-04-5D (2-(4,5-Dimethyl-1,3-dioxolan-2-yl)phenyl methylcarbamate); 7257-41-2D (Dinoprop;); 7345-69-9D (GY-81); 7439-97-6D (Mercury); 7446-18-6D (Thallium sulfate;); 7487-94-7D (Mercuric chloride;); 7561-71-9D (Trinactin); 7645-25-2D (Lead arsenate;); 7664-38-2D (Phosphoric acid); 7681-49-4D (Sodium fluoride); 7700-17-6D (Crotoxyphos;); 7704-34-9D (Sulfur); 7758-98-7D (Copper sulfate;); 7778-44-1D (Calcium arsenate;); 7782-50-5D (Chlorine); 7786-34-7D (Mevinphos;); 7803-51-2D (Phosphine); 8001-35-2D (Camphechlor); 8011-63-0D (Bordeaux mixture); 8018-01-7D (Mancozeb;); 8022-00-2D (Demetonmethyl;); 8065-36-9D (Bufencarb;); 8065-48-3D (Demeton;); 8065-62-1D (Demephion;); 9003-13-8D (Butoxy(polypropylene glycol); 9006-42-2D (Metiram); 10004-44-1D (Hymexazole); 10045-86-0D (Ferric phosphate;); 10108-64-2D (Cadmium chloride;); 10112-91-1D (Mercurous chloride); 10265-92-6D (;

Methamidophos;); 10311-84-9D (Dialifos); 10380-28-6D (Oxine Copper;); 10402-16-1D (Copper oleate;); 10537-47-0D (Malonoben); 10605-21-7D (Carbendazim); 11096-18-7D (Cufraneb); 11104-05-5D (Grandlure;); 11113-80-7D (Polyoxin); 11136-48-4D (BAS 3201); 11141-17-6D (Azadirachtin); 12002-03-8 (C.I. Pigment Green 21); 12002-53-8D (Trimedlure); 12057-74-8D (Magnesium phosphide); 12071-83-9D (Propineb;); 12122-67-7D (Zineb); 12407-86-2D (Trimethacarb;); 12427-38-2D (Maneb;); 12789-03-6D (Chlordan); 12789-45-6D (Methyl phosphate;); 13121-70-5D (Cyhexatin;); 13171-21-6D (Phosphamidon); 13265-60-6D (DAEP); 13356-08-6D (Fenbutatin oxide); 13457-18-6D (Pyrazophos;); 13516-27-3D (Iminoctadine;); 13593-03-8D (Quinalphos); 13593-08-3D (Quinalphosmethyl;); 13687-09-7D (Bisazir;); 13804-51-8D (Juvenile hormone I); 13929-18-5D (Medlure); 14088-71-2D (Proclonol); 14168-01-5D (Dilor); 14202-66-5D (Amidothioate); 14235-86-0D (Hydrargaphen); 14255-88-0D (Fenazaflor;); 14465-96-4D (Dimatif); 14484-64-1D (Ferbam;); 14534-95-3D (Potassium hydroxyquinoline sulfate); 14698-29-4D (Oxolinic acid;); 14816-18-3D (Phoxim); 14816-20-7D; 14959-86-5D; 15263-53-3D (Cartap); 15310-01-7D (Benodanil;); 15339-36-3D (Manganous dimethyl dithiocarbamate;); 15521-65-0D (Nickel bis(dimethyldithiocarbamate);); 15662-33-6D (Ryania;); 15879-93-3D (Chloralose;); 16725-53-4D; 16752-77-5D (Methomyl); 16759-59-4D (Benoxafos); 16893-85-9D (Sodium hexafluorosilicate;); 16974-34-8D; 17040-19-6D; 17109-49-8D (Edifenphos); 17125-80-3D (Barium hexafluorosilicate); 17598-02-6D (Precocene I); 17606-31-4D (Bensultap); 17702-57-7D (Formparanate); 17804-35-2D (Benomyl); 18181-70-9D (Jodfenphos); 18181-80-1D (Bromopropylate;); 19408-46-9D (Kasugamycin hydrochloride); 19622-19-6D (Prothiocarb;); 19750-95-9D (Chlordimeform hydrochloride;); 19764-43-3D (MEthoquinbutyl); 20261-85-2D (Dinactin); 20276-83-9D (Prothidathion); 20290-99-7D (Brevicomin;); 20427-59-2D (Copper hydroxide;); 20859-73-8D (Aluminum phosphide); 21548-32-3D (Fosthietan;); 21564-17-0D (TCMTB;); 21709-44-4D; 21757-82-4D (2,2,2-Trichloro-1-(3,4-dichlorophenyl)ethyl acetate;); 22224-92-6D (Fenamiphos;); 22248-79-9D; 22259-30-9D (Formetanate); 22431-62-5D (Bioethanomethrin;); 22662-39-1D (Rafoxanide); 22781-23-3D (Bendiocarb;); 22963-93-5D (Juvenile hormone III); 23031-36-9D (Prallethrin); 23135-22-0D (Oxamyl;); 23400-52-4 (Megatomoic acid); 23422-53-9D (Formetanate hydrochloride;); 23504-07-6D; 23526-02-5D (Thuringiensin); 23560-59-0D (Heptenophos); 23564-05-8D (Thiophanate-methyl); 23564-06-9D (Thiophanate); 23623-49-6D; 23947-60-6D (Ethirimol;); 24017-47-8D (Triazophos); 24353-61-5D (Isocarbophos); 24579-73-5D (Propamocarb); 24691-80-3D (Fenfuram;); 24934-91-6D; 25171-63-5D (Thiocarboxime); 25402-06-6D (Cinerin I); 26087-47-8D (Iprobenfos); 26530-20-1D (Octhilinone); 26532-22-9D (Grandlure I;); 26532-23-0D (Grandlure II); 26532-25-2D (Grandlure IV;); 26644-46-2D (Triforine;); 26952-23-8D (Dichloropropene); 27355-22-2D (Fthalide); 27519-02-4D (Muscalure); 27541-88-4D (Quinonamid); 27605-76-1D (Probenazole); 28159-98-0D (Cybutrin); 28217-97-2D (Chlormethiuron;); 28401-39-0D (Frontalin;); 28434-01-7D (Bioresmethrin); 28772-56-7D (Bromadiolone;); 29104-30-1D (Benzoximate); 29232-93-7D (Pirimiphosmethyl); 29656-68-6D (Ethyl hexanediol); 29672-19-3D (Nitrilacarb;); 29804-22-6D (Disparlure); 30087-47-9D (Fenethacarb;); 30507-70-1D; 30525-89-4D (Paraformaldehyde); 30864-28-9D (Methacrifos); 31218-83-4D (Propetamphos); 32809-16-8D (Procymidone;); 33089-61-1D (Amitraz); 33399-00-7D (Bromfenvinfos); 33956-49-9D (Codlemone); 33956-61-5D (Tetranactin); 34010-21-4D ((Z)-Hexadec-11-en-1-yl acetate;); 34218-61-6D (Juvenile hormone II); 34264-24-9D (Promacyl); 34681-10-2D (Butocarboxim;); 34681-23-7D (Butoxycarboxim); 35153-15-2D (;(Z)-Tetradec-9-en-1-ol;); 35367-31-8D (Penfluron); 35367-38-5D (Diflubenzuron;); 35400-43-2D (Sulprofos); 35554-44-0D (Imazalil;); 35628-00-3D (Ipsdienol); 35628-05-8D (Ipsenol); 36145-08-1D (Chlorprazophos;); 36734-19-7D (Iprodione); 37338-40-2D; 37407-77-5D (Chlormebuform); 37893-02-0D (Flubenzimine); 38260-54-7D (Etrimfos); 38260-63-8D (Lirimfos;); 38421-90-8D ((E)-Dec-5-en-1-yl acetate); 38524-82-2D (Trifenofos); 39148-24-8D (FosetylAluminum;); 39196-18-4D (Thiofanox); 39285-04-6D (Polynactin); 39300-45-3D (Dinocap); 39515-41-8D (Fenpropathrin); 39589-98-5D (Dimethyl carbate;); 39603-48-0D (Bisthiosemi); 40085-57-2D (Tazimcarb); 40596-80-3D (Triprene); 40626-35-5D (Heterophos); 41083-11-8D (Azocyclotin); 41096-46-2D (Hydroprene;); 41198-08-7D (Profenofos;); 41483-43-6D (Bupirimate;); 41814-78-2D (Tricyclazole;); 42588-37-4D (Kinoprene;); 42873-80-3D (Dofenapyn); 43121-43-3D (Triadimefon); 50471-44-8D (Vinclozolin); 50512-35-1D (Isoprothiolane); 50642-14-3D (Validamycin); 50767-79-8D; 50864-67-0D (Barium polysulfide); 50933-33-0D (Gossyplure);

51487-69-5D (Cloethocarb); 51596-10-2D (Milbemectin;); 51630-58-1D (Fenvalerate); 51877-74-8D (Biopermethrin); 52315-07-8D (Cypermethrin;); 52645-53-1D (Permethrin;); 52918-63-5D (Deltamethrin); 53084-58-5D (RA 17); 53112-28-0D (Pyrimethanil); 53231-49-5D (Copper Ammonium carbonate;); 53939-28-9D ((Z)-Hexadec-11-enal); 54364-62-4D; 54406-48-3D (Empenthrin;); 54460-46-7D (Hexadecyl cyclopropanecarboxylate;); 54593-83-8D (Chlorethoxyfos); 54815-06-4D (a-Multistriatin); 55179-31-2D (Bitertanol); 55219-65-3D (Triadimenol); 55285-14-8D (Carbosulfan;); 55406-53-6D (Iodocarb); 55600-59-4D (Isolane); 55814-41-0D (Mepronil); 56073-07-5D (Difenacoum;); 56073-10-0D (Brodifacoum;); 56716-21-3D (Hyquincarb;); 57018-04-9D (Tolclofosmethyl); 57127-42-1D (Chlorofenethol); 57369-32-1D (Pyroquilon); 57646-30-7D (Furalaxyl;); 57808-65-8D (Closantel); 57837-19-1D (Metalaxyl); 57960-19-7D (Acequinocyl;); 57966-95-7D (Cymoxanil;); 58481-70-2D (Dicresyl); 58769-20-3D (RU 15525;); 58810-48-3D (Ofurace); 60168-88-9D (Fenarimol); 60207-31-0D (Azaconazole); 60238-56-4D (Chlorthiophos); 60589-06-2D (Metoxadiazone;); 60799-74-8 (Litlure;); 61444-62-0D (Nifluridide;); 61654-54-4D; 61676-87-7D (CGA 50439); 62441-54-7D (Fentrifanil); 62850-32-2D (Fenothiocarb;); 62865-36-5D (Diclomezine); 63333-35-7D (Bromethalin); 63408-44-6D ((Z)-EIcos-13-en-10-one); 63771-69-7D (Zolaprofos); 63837-33-2D (Diofenolan); 64726-91-6D (Japonilure); 65035-34-9D (Lineatin); 65128-96-3D; 65400-98-8D (Fenoxacrim); 65691-00-1D (Triarathene); 66063-05-6D (Pencycuron;); 66257-53-2D (Oxamate;); 66332-96-5D (Flutolanil;); 66952-49-6D (Methasulfocarb); 67306-00-7D (Fenpropidin); 67375-30-8D (Alphacypermethrin); 67485-29-4D (Hydramethylnon;); 67564-91-4D (Fenpropimorph;); 67747-09-5D (Prochloraz;); 68085-85-8D (Cyhalothrin;); 68359-37-5D (Betacyfluthrin;); 68523-18-2D (Fenpirithrin;); 68694-11-1D (Triflumizole;); 69327-76-0D (Buprofezin;); 69409-94-5D (Fluvalinate); 69770-45-2D (Flumethrin); 70124-77-5D (Flucythrinate); 70288-86-7D (Ivermectin); 70630-17-0D (Mefenoxam); 71422-67-8D (Chlorfluazuron;); 71626-11-4D (Benalaxyl); 71751-41-2D (Abamectin); 72269-48-8D ((E)-Tridec-4-en-1-yl acetate); 72459-58-6D (Triazoxide;); 72490-01-8D (Fenoxycarb;); 74738-17-3D (Fenpiclonil); 75491-92-8D (RU 25475); 75867-00-4D (Fenfluthrin;); 76280-91-6D (Tecloftalam); 76674-21-0D (Flutriafol); 77732-09-3D (Oxadixyl;); 78587-05-0D (Hexythiazox); 78617-58-0D; 79622-59-6D (Fluazinam); 79983-71-4D (; Hexaconazole); 80060-09-9D (Diafenthiuron;); 80844-07-1D (Etofenprox;); 81412-43-3D (Tridemorph); 81613-59-4D (Flupropadine;); 82560-54-1D (Benfuracarb;); 82657-04-3D (Bifenthrin); 83130-01-2D (Alanycarb); 83657-24-3D (Diniconazole); 83733-82-8D (Fosmethilan;); 84332-86-5D (Chlozolinate); 84466-05-7D (Amidoflumet;); 85509-19-9D (Flusilazole); 86003-55-6D (Nikkomycin); 86598-92-7D (Imibenconazole;); 86811-58-7D (Fluazuron;); 87130-20-9D (Diethofencarb;); 88283-41-4D (Pyrifenox;); 89269-64-7D (Ferimzone;); 90035-08-8D (Flocoumafen;); 90338-20-8D (Butathiofos); 91315-15-0D (Aldimorph); 93091-95-3D (14-Methyloctadec-1-ene); 94361-06-5D (Cyproconazole;); 96489-71-3D (Pyridaben); 96645-86-2D (Trunccall;); 98243-83-5D (Benalaxyl-M;); 98886-44-3D (Fosthiazate;); 101007-06-1D (Acrinathrin); 101463-69-8D (Flufenoxuron); 102851-06-9D (Taufluvalinate); 103055-07-8D (Lufenuron); 103782-08-7D (Allosamidin); 104030-54-8D (Carpropamid); 104078-12-8D (Dinocton); 104653-34-1D (Difethialone); 105425-52-3D; 105700-87-6D; 105726-67-8D (Methylneodecanamide); 105779-78-0D (Pyrimidifen); 106855-58-7D (GL-21); 106917-52-6D (Flusulfamide); 107534-96-3D (Tebuconazole;); 108173-90-6D (Guazatine); 108307-07-9D (SSI-121); 110235-47-7D (Mepanipyrim;); 110488-70-5D (Dimethomorph;); 111872-58-3D (Halfenprox); 112143-82-5D (Triazuron); 112281-77-3D (Tetraconazole;); 113036-88-7D (Flucycloxuron;); 113507-06-5D (Moxidectin;); 114369-43-6D (Fenbuconazole;); 115044-19-4D; 115852-48-7D (Fenoxanil); 116255-48-2D (Bromuconazole); 116714-46-6D (Novaluron;); 117428-22-5D (Picoxystrobin;); 117704-25-3D (Doramectin); 118134-30-8D (Spiroxamine;); 119168-77-3D (Fenpyrad); 119446-68-3D (Difenoconazole;); 119515-38-7D (Picaridin); 119791-41-2D (Emamectin); 120068-37-3D (Fipronil); 120116-88-3D (Cyazofamid); 120928-09-8D (Fenazaquin); 120955-77-3D (NC 184); 121552-61-2D (Cyprodinil;); 122453-73-0D (Chlorfenapyr); 123572-88-3D (Furametpyr;); 123997-26-2D (Eprinomectin;); 124495-18-7D (Quinoxyfen;); 125225-28-7D (Ipconazole); 126833-17-8D (Fenhexamid); 129496-10-2D; 130000-40-7D (Thifluzamide); 130339-07-0D (Diflumetorim;); 131341-86-1D (Fludioxonil); 131807-57-3D (Famoxadone); 131860-33-8D (Azoxystrobin); 131983-72-7D (Triticonazole;); 133408-50-1D (Metominostrobin); 133855-98-8D (Epoxiconazole;); 134098-61-6D (Fenpyroximate;); 134633-32-2D (EL 1642); 135158-54-2D

(Acibenzolar-S-methyl;); 136426-54-5D (Fluquinconazole;); 139920-32-4D (Diclocymet;); 140923-17-7D (Iprovalicarb); 141517-21-7D (Trifloxystrobin); 143390-89-0D (Kresoximmethyl); 143807-66-3D (Chromafenozide;); 145767-97-1D (Vaniliprole); 146659-78-1D (Polyoxin D zinc salt); 148477-71-8D (SpiroDiclofen); 149508-90-7D (Simeconazole;); 149877-41-8D (Bifenazate); 153233-91-1D (Etoxazole;); 155569-91-8D (Emamectin benzoate;); 156052-68-5D (Zoxamide); 160791-64-0D (ZXI 8901;); 161326-34-7D (Fenamidone;); 162320-67-4D (SZI 121); 162490-88-2D (Sordidin); 162650-77-3D (Ethaboxam;); 163269-30-5D (Bethoxazin); 168316-95-8D (Spinosad); 175013-18-0D (Pyraclostrobin;); 175217-20-6D (Silthiofam); 178928-70-6D (Prothioconazole); 180409-60-3D; 183675-82-3D (Penthiopyrad); 185676-84-0D (MB 599); 188425-85-6D (Boscalid;); 199062-81-2D (AZ 60541); 201593-84-2D (Bistrifluron); 209861-58-5D (Acetoprole); 210880-92-5D (Clothianidin;); 211867-47-9D; 220119-17-5D (Selamectin); 220899-03-6D (Metrafenone); 221201-92-9D; 229977-93-9D (Fluacrypyrim;); 239110-15-7D; 240494-70-6D (Metofluthrin;); 255725-89-4D (Dicliphos); 271241-14-6D (Dimefluthrin); 272451-61-3D; 283594-90-1D (Spiromesifen;); 333385-29-8D; 361377-29-9D (Fluoxastrobin;); 374704-75-3D; 374726-62-2D; 413615-35-7D (Benthiavalicarb;); 438450-41-0D; 500007-97-6D; 500008-00-4D; 500008-18-4D; 500008-20-8D; 500008-29-7D; 500008-36-6D; 500008-44-6D; 500008-45-7D; 500008-54-8D; 500008-55-9D; 500008-56-0D; 500008-60-6D; 500008-62-8D; 500008-66-2D; 500008-67-3D; 500008-74-2D; 500008-75-3D; 500010-08-2D; 500010-10-6D; 500011-03-0D; 599197-38-3D; 736994-60-8D; 736994-61-9D; 736994-63-1D; 736994-81-3D; 736994-82-4D; 750643-57-3D; 874967-67-6D; 875571-02-1; 875571-03-2; 875571-04-3; 875571-05-4; 875571-06-5; 875571-07-6D; 875571-08-7D; 875571-10-1D; 875571-11-2D; 875653-90-0D (Bacillus subtilis-PCNB-Metalaxyl mixt.); 875655-14-4D (AVI 382); 875655-15-5D (Brofenvalerate); 875655-36-0 (Butylpyridaben); 875656-61-4D (FMC 1137); 875656-67-0D (NNI 0250); 875656-68-1D (NNI 0101); 875656-99-8D (R 1492); 875657-87-7 (SI 0009); 875658-61-0D (YI 5302); 875658-89-2D (CS 708); 875690-85-0D (Dinocap 4); 875695-92-4D (Dinocap 6) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (synergistic fungicidal compns.); 26532-95-6D (Ostramone) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (tetradec-11-en-1-yl acetate; synergistic fungicidal compns.)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IS, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: GB
Priority Application Number: 2004-18047
Priority Application Date: 20040812
Citations: Ehrenfreund, J; WO 03074491 A 2003
Citations: Schelberger, K; US 2003036480 A1 2003 Synergistic fungicidal compns. comprise the pyrazole derivs. I (R1 = CF3 or CHF2; H or Me) or I tautomers and one of a very large no. of known fungicides. [on SciFinder (R)] A01N043-56. A01N061-00; A01N043-78; A01N043-653; A01N043-54; A01N043-36. synergism/ fungicide/ pyrazole/ deriv

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Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1983:214229
Chemical Abstracts Number: CAN 98:214229
Section Code: 17-1

Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (detn. of, in food by high-performance liq. chromatog. with photocond. detection); Food analysis (pesticides detn. in, by high-performance liq. chromatog. with photocond. detection); Chromatography (high-performance, of pesticides, photocond. detection in)
CAS Registry Numbers: 56-72-4; 62-73-7; 63-25-2; 86-50-0; 115-32-2; 133-06-2; 133-07-3; 150-68-5; 330-54-1; 330-55-2; 470-90-6; 732-11-6; 1194-65-6; 1897-45-6; 1912-24-9; 2425-06-1; 10311-84-9; 10606-46-9; 21609-90-5; 21725-46-2; 61949-76-6; 61949-77-7 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in food by high-performance liq. chromatog. with photocond. detection); 118-74-1 Role: BIOL (Biological study) (k$) The applicability of the Tractor Model 965 photocond. detector to the detn. of a variety of pesticide chems., particularly polar and (or) thermally labile compds., which are troublesome in gas chromatog. anal., was investigated. The effects of various operating parameters (e.g., mobile phase compn., flow-rate, and irradn. wavelength) on signal-to-noise output for selected compds. were evaluated. A comparison of photocond. responses with those obtained from a UV detector connected in tandem was made for selected ref. stds. and food sample exts. The photocond. detector was suitable for the detn. of pesticide residues at sub-parts-per-million levels. The linearity and reproducibility of the response are adequate for practical quant. applications. [on SciFinder (R)] 0021-9673
pesticide/ detn/ food;/ liq/ chromatog/ pesticide

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<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2004:84021
Chemical Abstracts Number: CAN 140:204622
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 5, 47, 80
Document Type: Journal
Language: written in English.
Index Terms: Alkanes Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (C12-19; org. pollutant detn. in water by high resoln. capillary gas chromatog. following coupled in-tube, solid-phase micro-extn. and thermal desorption); Polycyclic compounds Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (arom. hydrocarbons; org. pollutant detn. in water by high resoln. capillary gas chromatog. following coupled in-tube, solid-phase micro-extn. and thermal desorption); Organic compounds Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (org. pollutant detn. in water by high resoln. capillary gas chromatog. following coupled in-tube, solid-phase micro-extn. and thermal desorption); Pesticides (organochlorine; org. pollutant detn. in water by high resoln. capillary gas chromatog. following coupled in-tube, solid-phase micro-extn. and thermal desorption); Aromatic hydrocarbons Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (polycyclic; org. pollutant detn. in water by high resoln. capillary gas chromatog. following coupled in-tube, solid-phase micro-extn. and thermal desorption)
CAS Registry Numbers: 9016-00-6 (Poly(dimethylsiloxane) Role: ARG (Analytical reagent use), ANST (Analytical study), USES (Uses) (in-tube extn. agent; org. pollutant detn. in water by high resoln. capillary gas chromatog. following coupled in-tube, solid-phase micro-extn. and thermal desorption); 7732-18-5 (Water) Role: AMX (Analytical matrix), ANST (Analytical study) (org. pollutant detn. in water by high resoln. capillary gas chromatog. following coupled in-tube, solid-phase micro-extn. and thermal desorption); 50-29-3; 50-32-8 (Benzo(a)pyrene); 52-68-6 (Trichlorfon); 53-19-0; 53-70-3 (Dibenz[a,h]anthracene); 56-38-2 (Parathion ethyl); 56-55-3

(Benzo(a)anthracene); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 72-54-8; 72-55-9; 77-47-4 (Hexachlorocyclopentadiene); 82-68-8 (Pentachloronitrobenzene); 83-32-9 (Acenaphthene); 84-66-2 (Diethylphthalate); 84-74-2 (Di-n-butyl phthalate); 85-01-8 (Phenanthrene); 85-68-7 (Butyl benzyl phthalate); 86-30-6 (N-Nitrosodiphenylamine); 91-20-3 (Naphthalene); 99-30-9 (Dicloran); 115-32-2 (Kelthane); 120-12-7 (Anthracene); 121-75-5 (Malathion); 129-00-0 (Pyrene); 191-24-2 (Benzo(ghi)perylene); 193-39-5 (Indeno(1,2,3-cd)pyrene); 205-99-2 (Benzo(b)fluoranthene); 206-44-0 (Fluoranthene); 207-08-9 (Benzo(k)fluoranthene); 208-96-8 (Acenaphthylene); 218-01-9 (Chrysene); 298-00-0 (Parathion methyl); 311-45-5 (Paraoxon); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 319-86-8 (d-BHC); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Imidan); 789-02-6; 1113-02-6 (Omethoate); 2310-17-0 (Phosalone); 2921-88-2 (Chlorpyrifos); 3424-82-6; 5598-13-0 (Chlorpyrifos methyl); 7782-41-4 (Fluorine); 10265-92-6 (Methamidophos); 13593-03-8 (Quinalphos); 14816-18-3 (Phoxim); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphos methyl); 31218-83-4 (Propetamphos); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 50471-44-8 (Vinclozolin); 52918-63-5; 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 64363-96-8 (trans-Deltamethrin); 66230-04-4; 66267-77-4; 68085-85-8 (Cyhalothrin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (org. pollutant detn. in water by high resoln. capillary gas chromatog. following coupled in-tube, solid-phase micro-extn. and thermal desorption)
Citations: 1) Arthur, C; Anal Chem 1990, 62, 2145
Citations: 2) Lord, H; J Chromatogr A 2000, 885, 153
Citations: 3) Louch, D; J Anal Chem 1992, 64, 1187
Citations: 4) Buchlolz, K; J Anal Chem 1994, 66, 160
Citations: 5) Chen, J; Anal Chem 1995, 67, 2520
Citations: 6) Eisert, R; J Chromatogr A 1996, 737, 59
Citations: 7) Eisert, R; Crit Rev Anal Chem 1997, 27, 103
Citations: 8) Eisert, R; Anal Chem 1997, 69, 3140
Citations: 9) Dennis, B; Analyst 1999, 124, 651
Citations: 10) Nardi, L; paper presented at the 23rd International Symposium on Capillary Chromatography 2000
Citations: 11) Nardi, L; Am Lab 2002, 34(1), 30
Citations: 12) Mdcher, R; Anal Chem 1990, 62, 2183
Citations: 13) Goosens, E; J High Resolut Chromatogr 1990, 13, 438
Citations: 14) Vreuls, J; J High Resolut Chromatogr 1990, 13, 157
Citations: 15) Mol, H; J High Resolut Chromatogr 1993, 16, 413
Citations: 16) David, F; LCGC 2003, 21(1), 1
Citations: 17) Nardi, L; J Chromatogr A 2003, 985, 85
Citations: 18) Baltussen, E; J Microcol Sep 1999, 11, 737
Citations: 19) Langenfeld, J; Anal Chem 1996, 68, 144
Citations: 20) Baltussen, E; J Microcol Sep 1999, 11, 737 The authors validated an in-tube, solid-phase micro-extn. (SPME) device, designed for online coupling with a capillary gas chromatog. (GC) system, for trace anal. of org. pollutants in water. A 5 m * 0.53 mm, 1.2-mm df poly(dimethylsiloxane) phase capillary column was the in-tube extractor. This dynamic extn. method used a high sampling flow rate, thermal desorption, and valve switching in a novel system design. Compared with classic SPME, the online in-tube SPME system dramatically increased enrichment factors, and, due to online operation, improved quantitation precision. Cost/sample was the same as that of classic fiber SPME; it might be even lower in long-term use due to the use of an ordinary switching valve and conventional GC column extractor. [on SciFinder (R)] 1527-5949 org/ pollutant/ detn/ water/ capillary/ gas/ chromatog;/ in/ tube/ solid/ phase/ microextn/ org/ pollutant/ water;/ online/ coupled/ in/ tube/ microextn/ gas/ chromatog/ analysis

1363. Wang, Jian-Hua, Zhang, Yi-Bing, and Wang, Xiu-Lin (2006). Determination of multiclass pesticide residues in apple juice by gas chromatography-mass spectrometry with large-volume injection. *Journal of Separation Science* 29: 2330-2337.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Database: CAPLUS
Accession Number: AN 2006:1183954
Chemical Abstracts Number: CAN 146:141241
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (gas chromatog. combined with; pesticides in apple juice detd. by GC-MS with large-vol. injection); Gas chromatography (mass spectrometry combined with; pesticides in apple juice detd. by GC-MS with large-vol. injection); Apple juice; Evaporation; Food contamination; Pesticides (pesticides in apple juice detd. by GC-MS with large-vol. injection)
CAS Registry Numbers: 50-29-3; 52-85-7 (Famphur); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 72-54-8; 72-55-9; 76-44-8 (Heptachlor); 82-68-8 (PCNB); 86-50-0 (Azinphos-methyl); 92-52-4 (Biphenyl); 97-17-6 (Dichlofenthion); 99-30-9 (Dicloran); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 118-74-1 (HCB); 121-75-5 (Malathion); 126-75-0 (Demeton-s); 127-90-2 (S421); 133-06-2 (Captan); 133-07-3 (Folpet); 141-66-2 (Dicrotophos); 298-00-0 (Parathion-methyl); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 319-86-8 (Delta-BHC); 327-98-0 (Trichloronate); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 640-15-3 (Thiometon); 709-98-8 (Propanil); 732-11-6 (Phosmet); 789-02-6; 944-22-9 (Fonofos); 959-98-8 (a-Endosulfan); 1014-70-6 (Simetryn); 1024-57-3 (Heptachlorepoxide); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1610-17-9 (Atraton); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 1918-18-9 (Swep); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2212-67-1 (Molinate); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2425-06-1 (Captafol); 2439-01-2; 2439-10-3 (Dodine); 2595-54-2 (Mecarbam); 2597-03-7; 2631-40-5 (Isoprocarb); 2636-26-2 (Cyanophos); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3766-81-2 (Fenobucarb); 5234-68-4 (Carboxin); 6923-22-4 (Monocrotophos); 7696-12-0 (Tetramethrin); 10265-92-6 (Methamidophos); 13067-93-1 (Cyanofenphos); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprophos); 13593-03-8 (Quinalphos); 17109-49-8 (Edifenphos); 18181-70-9 (Iodofenphos); 18181-80-1 (Bromopropylate); 19666-30-9 (Oxadiazon); 21087-64-9 (Metribuzin); 22224-92-6 (Fenamiphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23184-66-9 (Butachlor); 24579-73-5 (Propamocarb); 25311-71-1 (Isofenphos); 28249-77-6 (Thiobencarb); 29973-13-5 (Ethiofencarb); 31218-83-4 (Propetamphos); 32809-16-8; 33213-65-9 (b-Endosulfan); 34256-82-1 (Acetochlor); 34643-46-4 (Prothiofos); 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39515-41-8 (Fenpropathrin); 40487-42-1 (Pendimethalin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 41814-78-2 (Tricyclazole); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55285-14-8 (Carbosulfan); 55814-41-0 (Mepronil); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 66332-96-5 (Flutolanil); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 73250-68-7 (Mefenacet); 76578-14-8 (Quizalofop-ethyl); 76738-62-0 (Paclobutrazol); 77732-09-3 (Oxadixyl); 87820-88-0 (Tralkoxydim); 88283-41-4 (Pyrifenox); 88671-89-0 (Myclobutanil); 96489-71-3 (Pyridaben); 107534-96-3 (Tebuconazole); 131860-33-8 (Azoxystrobin) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (pesticides in apple juice detd. by GC-MS with large-vol. injection)
Citations: 1) Young, S; J AOAC Int 2001, 84, 556
Citations: 2) Hu, X; J AOAC Int 2004, 87, 972
Citations: 3) Albero, B; J Chromatogr A 2004, 1043, 127
Citations: 4) Zambonin, C; Food Chem 2004, 86, 269
Citations: 5) Chu, X; J Chromatogr A 2005, 1063, 201
Citations: 6) van Hout, M; J Chromatogr B 1999, 729, 199
Citations: 7) Engewald, W; J Chromatogr A 1999, 842, 143
Citations: 8) Teske, J; J Chromatogr B 2002, 772, 299

Citations: 9) Hada, M; J Chromatogr A 2000, 874, 81
Citations: 10) Anastassiades, M; J AOAC Int 2003, 86, 412
Citations: 11) Zrostlikova, J; J Chromatogr A 2001, 937, 73
Citations: 12) US Department of Agriculture; Pesticide Data Program, www.ams usda gov/science/pdp/QC15.pdf 2005, SOP#PDP-QC15
Citations: 13) Prset, H; Aglient Technologies Application Note 1999, 5968-3797E
Citations: 14) Schenck, F; J AOAC Int 2002, 85, 1177
Citations: 15) Fillion, J; J AOAC Int 2000, 83, 698
Citations: 16) Mastovska, K; J Chromatogr A 2004, 1040, 259 This study presents two GC-MS SIM methods, in combination with large-vol. injection programmed-temp. vaporization (LVI-PTV) injection, for the detn. of 141 pesticide residues in apple juice. The sample was extd. with ACN, and coextractives were removed with primary/secondary amine sorbent. ACN ext. (20 mL) was injected into a PTV injection port in solvent vent mode, and the pesticides were detd. by GC-MS using retention time locking software. Deuterium-labeled pesticides (surrogate stds.) were used for anal. quality control. In the validation expts., pesticides recoveries were found to be 70-121% with RSDs of 4.6-21% (n = 6). [on SciFinder (R)] 1615-9306 pesticide/ apple/ juice/ GCMS

1364. Wangen, L. E. and Jones, M. M. (Attenuation of Chemical Elements in Acidic Leachates From Coal Mineral Wastes by Soils. *Govt reports announcements & index (gra&i), issue 05, 1985*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: The chemical attenuation of acidity and selected elements (aluminum, arsenic, cadmium, cobalt, chromium, copper, fluorine, iron, manganese, nickel, and zinc) in acidic leachates from coal mineral wastes by four natural subsurface soils has been investigated by using laboratory column methods. Leachate solutions were allowed to percolate through the soils under simulated natural flow conditions, and the elemental concentrations in the influents and effluents were measured periodically. Elemental retentions were substantial for all species except manganese, which was eluted in excess from all soils except the most calcerous. Two processes appeared to operate in decreasing influent concentrations: (1) precipitation of solid phases caused by increased pH of the leachate as it percolated through the soil, and (2) adsorption of elements onto exchange and sorption sites naturally present in the soil and on iron and aluminum oxide precipitates formed in situ from leachate components because of the incre
KEYWORDS: Aluminium
KEYWORDS: Arsenic
KEYWORDS: Ashes
KEYWORDS: Cadmium
KEYWORDS: Chromium
KEYWORDS: Coal
KEYWORDS: Cobalt
KEYWORDS: Copper
KEYWORDS: Fluorine
KEYWORDS: Iron
KEYWORDS: Manganese
KEYWORDS: Mineral Wastes
KEYWORDS: Nickel
KEYWORDS: Zinc

1365. Wantling, Steven (20060112). Wax emulsion preservative compositions and method for manufacture. 13 pp., Cont.-in-part of Appl. No. PCT/US04-017627.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 2006:30963
Chemical Abstracts Number: CAN 144:133168

Section Code: 58-3
Section Title: Cement, Concrete, and Related Building Materials
CA Section Cross-References: 49
Coden: USXXCO
Index Terms: Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (copper salts; wax emulsion preservative compns. and method for manuf. of gypsum-based boards); Construction materials (gypsum boards; wax emulsion preservative compns. and method for manuf. of gypsum-based boards); Antibacterial agents; Biocides; Emulsions; Fungicides; Insecticides (wax emulsion preservative compns. and method for manuf. of gypsum-based boards); Quaternary ammonium compounds Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (wax emulsion preservative compns. and method for manuf. of gypsum-based boards); Montan wax; Paraffin waxes Role: TEM (Technical or engineered material use), USES (Uses) (wax emulsion preservative compns. and method for manuf. of gypsum-based boards); Naphthenic acids Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (zinc salts; wax emulsion preservative compns. and method for manuf. of gypsum-based boards)
CAS Registry Numbers: 52-51-7; 54-11-5 (Nicotine); 55-21-0 (Phenylamide); 55-38-9 (Fenthion); 56-38-2 (Parathion); 57-92-1 (Streptomycin); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 66-81-9 (Cycloheximide); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 93-75-4 (Thioquinox); 93-98-1D; 99-30-9 (Dichloran); 101-20-2 (3,4,4'-Trichlorocarbanilide); 107-49-3 (TEPP); 111-30-8 (Glutaraldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 115-90-2 (Fensulfothion); 116-01-8 (Ethoate-methyl); 116-06-3 (Aldicarb); 117-80-6 (Dichlone); 118-75-2 (Chloranil); 122-14-5 (Fenitrothion); 126-07-8 (Griseofulvin); 126-75-0 (Demeton-S); 137-26-8 (Tetramethylthiuram disulfide); 137-30-4 (Ziram); 141-66-2 (Dicrotophos); 144-54-7 (Metham); 148-79-8 (Thiabendazole); 298-00-0 (Methyl parathion); 298-02-2 (Phorate); 301-12-2 (Demeton-S-methyl sulfoxide); 315-18-4 (Mexacarbate); 333-41-5 (Diazinon); 485-31-4 (Binapacryl); 533-74-4 (METASOLD3TA); 563-12-2 (Ethion); 593-90-8 (Trimethyl boron); 645-48-7 (1-Phenyl-thiosemicarbazide); 682-80-4 (Demephion-O); 719-96-0 (N-(Fluorodichloromethylthio)phthalimide); 732-11-6 (Phosmet); 867-27-6; 919-86-8; 944-22-9 (Fonofos); 950-37-8 (Methidathion); 971-66-4; 973-21-7 (2-sec-Butyl-4,6-dinitrophenyl isopropyl carbonate); 1003-07-2 (3-Isothiazolone); 1085-98-9 (N,N-Dimethyl-N'-phenyl-N'-fluorodichloromethylthiosulfamide); 1113-02-6 (Omethoate); 1314-13-2 (Zinc oxide); 1332-07-6 (Zinc borate); 1563-66-2 (Carbofuran); 1593-77-7 (Dodemorph); 1897-45-6 (Chlorothalonil); 2032-65-7 (Methiocarb); 2143-68-2 (Methoxyl); 2275-23-2 (Vamidothion); 2307-49-5 (Tricamba); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-10-3 (Dodine); 2587-90-8 (Demephion-S); 2631-37-0 (Promecarb); 2634-33-5 (1,2-Benzisothiazolin-3-one); 2675-77-6 (Chloroneb); 2778-04-3 (Endothion); 2921-88-2 (Chlorpyrifos); 3347-22-6 (Dithianon); 3380-34-5 (5-Chloro-2-(2,4-dichlorophenoxy)-phenol); 3383-96-8 (Temephos); 3811-73-2; 5598-13-0 (Chlorpyrifos methyl); 6317-18-6 (Methylene-bis-thio-cyanate); 6440-58-0; 6923-22-4 (Monocrotophos); 6980-18-3 (Kasugamycin); 7173-51-5 (Didecyldimethylammonium chloride); 7786-34-7 (Mevinphos); 8018-01-7 (Mancozeb); 8065-48-3 (Demeton); 10043-35-3 (Boric acid); 10222-01-2 (2,2-Di-bromo-3-nitrilopropionamide); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifor); 10380-28-6 (Copper-8-hydroxy-quinoline); 10405-27-3 (Fluorimide); 10453-86-8 (Resmethrin); 10605-21-7 (Carbendazim); 12071-83-9 (Propineb); 12122-67-7 (Zinc ethylenebisdithiocarbamate); 12427-38-2; 13071-79-9 (Terbufos); 13108-52-6 (2,3,5,6-Tetrachloro-4-(methylsulfonyl)-pyridine); 13121-70-5 (Cyhexatin); 13167-25-4 (2,4,6-Trichlorophenyl-maleimide); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 13356-08-6 (Fenbutatin-oxide); 13457-18-6 (Pyrazophos); 13463-41-7 (2-Pyridinethiol-1-oxide, zinc salt); 14255-88-0 (Fenazaflor); 14484-64-1 (Ferbam); 15263-53-3 (Cartap); 16752-77-5 (Methomyl); 17804-35-2 (Benomyl); 18854-01-8 (Isoxathion); 20018-09-1 (Diiodomethyl p-tolyl sulfone); 20679-58-7 (1,4-Bis(bromo-acetoxy)-2-butene); 21564-17-0 (2-Thiocyano-methylthiobenzothiazole); 22224-92-6 (Fenamiphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23505-41-1 (Pirimiphos-ethyl); 23564-05-8 (Thiophanate-methyl); 23947-60-6 (Ethirimol); 24017-47-8 (Triazophos); 24579-73-5 (Propamocarb); 25311-71-1 (Isofenphos); 26656-82-6 (Copper thiocyanate); 26766-27-8 (Triarimol); 27321-95-5 (Polyethylene thiuram disulfide); 29772-02-9 (4-Chlorophenyl-3-iodopropargyl formal); 29973-13-5 (Ethiofencarb);

30007-47-7 (5-Bromo-5-nitro-1,3-dioxane); 30560-19-1 (Acephate); 32809-16-8 (Procymidone); 35367-38-5 (Diflubenzuron); 35554-44-0 (Imazalil); 35691-65-7 (1,2-Dibromo-2,4-dicyanobutane); 36734-19-7 (Iprodione); 38260-54-7 (Etrimfos); 39300-45-3 (Dinocap); 39515-40-7 (Cyphenothrin); 39758-90-2; 41198-08-7 (Profenofos); 42509-80-8 (Isazophos); 43121-43-3 (Triadimefon); 51630-58-1 (Fenvalerate); 52315-07-8 (-Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55406-53-6 (3-Iodo-2-propynylbutylcarbamate); 57018-04-9 (Tolclofos-methyl); 58810-48-3 (Ofurace); 59669-26-0 (Thiodicarb); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 65907-30-4 (Furathiocarb); 66230-04-4 (Esfenvalerate); 67412-55-9 (N,N-Dimethyl dichlorophenyl urea); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 69409-94-5 (Fluvalinate); 69581-33-5 (Cyprofuram); 71626-11-4 (Benalaxyl); 72490-01-8 (Fenoxycarb); 74115-24-5 (Clofentezine); 74738-17-3 (Fenpiclonil); 78587-05-0 (Hexythiazox); 81412-43-3 (Tridemorph); 82633-79-2 (4,5-Tri-methylene-2-methyl-3-isothiazolone); 82657-04-3 (Bifenthrin); 83733-82-8 (Fosmethilan); 84370-79-6; 88671-89-0 (Myclobutanil); 94361-06-5 (Cyproconazole); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 107534-96-3 (Tebuconazole); 107846-11-7 (Bromochlorodimethylhydantoin); 110488-70-5 (Dimethomorph); 112143-82-5 (Triazamate); 112410-23-8 (Tebufenozide); 113036-88-7 (Flucycloxuron); 114369-43-6 (Fenbu-conazole); 130000-40-7 (Thifluzamide); 154025-04-4 (Flumetover); 164348-31-6; 164348-32-7; 164348-33-8; 216006-67-6; 873080-04-7; 873303-43-6; 873303-44-7 Role: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses) (wax emulsion preservative compns. and method for manuf. of gypsum-based boards); 1310-58-3 (Potassium hydroxide); 8061-51-6 (Polyfon H); 9005-25-8 (Starch); 12027-67-7 Role: MOA (Modifier or additive use), USES (Uses) (wax emulsion preservative compns. and method for manuf. of gypsum-based boards); 13397-24-5 (Gypsum); 331254-78-5 (Disal) Role: TEM (Technical or engineered material use), USES (Uses) (wax emulsion preservative compns. and method for manuf. of gypsum-based boards)
Patent Application Country: Application: US
Priority Application Country: WO
Priority Application Number: 2004-US17627
Priority Application Date: 20040603 An emulsion comprising water as the continuous phase, a wax as the discontinuous phase, an emulsifier and a preservative having the general structure: wherein R1 can be a heterocycle contg. nitrogen and sulfur, such as thiazolyl, isothiazolyl, or thiadiazolyl, which can optionally be substituted with C1-C6 alkyl; R2 can be hydrogen or C1-C6 alkyl, specifically hydrogen; n is 0, 1, 2, or 3; each instance of R3 can independently be hydrogen, C1-C6 alkyl, phenoxy, C1-C6 alkoxy, halo, amino, C1-C6 alkylamino, di C1-C6 alkyl amino, imidazolyl, thiazolyl, isothiazolyl, thiadiazolyl, thienyl, furyl, pyrryl, naphthyl, Ph, halophenyl, C1-C6 alkyl Ph, or C1-C6 alkoxyphenyl. The preservative may be added to the emulsion after the emulsion is formed. The emulsion can be incorporated into a gypsum product such as gypsum board or gypsum wood fiber board. The gypsum product may be made by forming a slurry contg. gypsum, water, and the emulsion into a solid product. A method for improving the water resistance of a lignocellulosic composite product prepd. by mixing lignocellulosic material with a binder to form a mixt. and solidifying the mixt. in a selected configuration to form the composite product may include adding to the mixt. an emulsion as described above. [on SciFinder (R)] wax/ emulsion/ preservative/ compn/ gypsum/ board/ manuf

1366. Ware, G. W. (1991). Reviews of Environmental Contamination and Toxicology Vol. 118. *Ware, g. W. (Ed.). Reviews of environmental contamination and toxicology, vol. 118. Ix+158p. Springer-verlag new york inc.: New york, new york, usa* Berlin, germany. Illus. Isbn 0-387-97447-4; isbn 3-540-97447-4.; 0: Ix+158p.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK PESTICIDES
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS

MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

1367. Warner, J. S., Engel, T. M., and Mondron, P. J (1985). Determination of thiophosphates in industrial and municipal wastewaters. Aspon, dichlofenthion, famphur, fenitrothion, fonophos, phosmet, and thionazin.
Chem Codes : Chemical of Concern: PSM Rejection Code: FATE, CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1986:230117
Chemical Abstracts Number: CAN 104:230117
Section Code: 61-3
Section Title: Water
CA Section Cross-References: 60, 79
Document Type: Report
Language: written in English.
CAS Registry Numbers: 52-85-7; 97-17-6; 122-14-5; 297-97-2; 732-11-6; 944-22-9; 3244-90-4 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in industrial and municipal wastewaters, by gas chromatog.); 121-75-5P Role: IMF (Industrial manufacture), PREP (Preparation) (manuf. of, wastewaters from, thiophosphate detn. in, gas chromatog. for); 7732-18-5 Role: ANST (Analytical study) (thiophosphate detn. in industrial and municipal waste-, by gas chromatog.) A method was developed for the detn. of 7 thiophosphate compds. aspon [3244-90-4], dichlofenthion [97-17-6], famphur [52-85-7], fenitrothion [122-14-5], fonofos [944-22-9], phosmet [732-11-6], and thionazin [297-97-2] in wastewaters. The method development program consisted of a literature review; detn. of extn. efficiency for each compd. from water into CH2Cl2; development of a deactivated Florisil cleanup procedure; and detn. of suitable gas chromatog. (GC) anal. conditions. Extn. and cleanup procedures were developed to provide >=85% recoveries of these compds. from water. A packed column GC-AFD anal. procedure was also developed. The final method was applied to wastewater from a manufacturer of malathion [121-75-5] and to secondary effluent in order to det. the precision and accuracy of the method. The wastewaters were spiked with the 7 compds. at levels of 50 mg/L and 500 mg/L, resp. Recoveries for the 7 compds. were 85-89% at both concn. levels. Method detection limits (MDLs) for the 7 compds. in distd. water were 1-20 mg/L. MDLs in wastewaters may be higher due to interfering compds. [on SciFinder (R)] thiophosphate/ detn/ wastewater/ gas/ chromatog

1368. Watanabe, T. (1998). Determination of the Concentration of Pesticides in Atmosphere at High Altitudes After Aerial Application. *Bulletin of environmental contamination and toxicology* 60: 669-676.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM RESEARCH ARTICLE HIGH ALTITUDES PESTICIDES DDT PESTICIDE AERIAL PESTICIDE APPLICATION POLLUTION ATMOSPHERIC CONCENTRATIONS
MESH HEADINGS: CLIMATE
MESH HEADINGS: ECOLOGY
MESH HEADINGS: METEOROLOGICAL FACTORS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION

MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
LANGUAGE: eng

1369. Watanabe, T. (1996). Sampling Method for Determination of Pesticides in the Atmosphere Using Silica Gel Column. *Journal of pesticide science* 21: 147-152.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Sampling method was developed for analysis of various pesticides in the atmosphere using silica gel column (SEP-PAK cartridge) as adsorbent. Thirty eight pesticides were measured for the recoveries after fortification to silica gel, stability on silica gel under air passing, storage stabilities on silica gel and collection efficiencies of gaseous pesticides. The recoveries of pesticides fortified to silica gel column were over 96%. Fenthion and disulfoton on silica gel under air passing were unstable and it was presumed that they were decomposed by oxidation during the air passing. Edifenphos, simetryne, dimethylvinfos, tetrachlorvinfos and EPN were unstable in silica gel column at 25êC, then silica gel column was necessary to be kept under - 15êC until extraction after collection of the air. The collection efficiencies of butamifos, dimethoate, piperofos and phosmet were not satisfactory, i.e., 45-60%. However, the other 32 pesticides have useful efficiency.
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
LANGUAGE: jpn

1370. Watts, D. W. and Hall, J. K. (1996). Tillage and Application Effects on Herbicide Leaching and Runoff. *Soil and Tillage Research, 39 (3-4) pp. 241-257, 1996.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0167-1987
Descriptors: Leaching
Descriptors: Pan lysimeters
Descriptors: Runoff
Descriptors: Herbicides
Descriptors: Conventional tillage
Descriptors: Mulch tillage
Descriptors: No-tillage
Descriptors: Zea mays L.
Abstract: Herbicides are key products in sustaining agricultural production and, to minimize agro-environmental concerns regarding their use, continued assessment of their behavior under different management practices is required. Leaching and runoff losses of four herbicides applied preplant-incorporated (PPI) were evaluated in two tillage systems over a 3-year period (1989-1991). Scant leaching during the droughty 1991 growing season limited treatment evaluations to 2 years. Herbicides were applied at recommended rates (1.7 and 2.2 kg active ingredient (a.i.) ha superior - superior 1 to conventional tillage (CT) and mulch tillage (MT) corn (Zea mays L.) fields on Hagerstown silty clay loam (fine, mixed, mesic Typic Hapludalf). Tillage treatments were defined as moldboard plow-disk-harrow (CT) and single-disking (MT). During this study, CT followed 5 years of corn production in a comparable CT system on this site and, similarly, MT followed a 5-

year no-tillage (NT) system. Herbicides were applied preemergence (PRE) to CT and NT in the 5-year study and preplant-incorporated (PPI) in this study. Herbicide mobility in subsurface drainage was evaluated from herbicide mass transported to pan lysimeters installed 1.2 m deep. Surface drainage bosses of these chemicals were determined from residues in runoff collected with automated sampling and recording equipment. Leachate volumes were greater from MT than CT in 1989 and 1990 and exceeded all seasonal losses during the previous 5 years under NT management. Comparisons of total seasonal leachate discharged to pan lysimeters within and among studies and herbicide mass leached showed that timing of leachate-inducing precipitation relative to herbicide application was the key factor in regulating herbicide translocation. Herbicide mass transported through the root zone averaged from less than 0.1% to 0.9% of applied rates in CT and from 1.4% to 5.1% in MT. Leachate-availability of herbicide residues and extent of herbicide longevity in this soil under MT conditions were similar to previous findings under NT management. Despite these behavioral similarities for herbicides among tillages, herbicide mass discharged per unit of percolate was most often lower for MT compared with NT, particularly in early growing seasons of comparable precipitation. Thus, the PPI treatment in MT appeared to reduce leaching of these chemicals compared with PRE application in NT. Runoff losses of PPI herbicides ranged from 0.35% to 0.77% of applied rates in CT and front 0.13% to 0.28% in MT. Losses of PRE applied herbicides from NT averaged less than 0.1% of applied rates: maximum yearly losses ranged from 0.06% to 0.18%. Thus, the character of the disked, minimally tilled surface provided a level of impedance to runoff that was greater than achieved with the tilled surface on this 3 to 5%, slope, but less than previously obtained with an untilled, mulch-covered surface.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Netherlands
Classification: 92.10.1.4 CROP SCIENCE: Crop Physiology: Soil science
Subfile: Plant Science

1371. Watts, Randall R. and Storherr, Robert W (1969). Gas chromatography of organophosphorus pesticides: retention times and response data on three columns. *Journal - Association of Official Analytical Chemists* 52: 513-21.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1969:412019
Chemical Abstracts Number: CAN 71:12019
Section Code: 19
Section Title: Pesticides
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (phosphorus-contg., chromatog. of)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 56-72-4; 60-51-5; 62-73-7; 78-34-2; 78-48-8; 86-50-0; 115-90-2; 115-93-5; 121-75-5; 122-14-5; 126-75-0; 141-66-2; 150-50-5; 152-16-9; 297-97-2; 298-00-0; 298-02-2; 298-04-4; 299-84-3; 299-85-4; 299-86-5; 300-76-5; 311-45-5; 333-41-5; 338-45-4; 563-12-2; 732-11-6; 786-19-6; 944-21-8; 944-22-9; 950-35-6; 953-17-3; 962-58-3; 1113-02-6; 1634-78-2; 2104-64-5; 2275-14-1; 2310-17-0; 2496-91-5; 2496-92-6; 2497-06-5; 2497-07-6; 2588-03-6; 2588-04-7; 2588-06-9; 2600-69-3; 2782-70-9; 2921-88-2; 3383-96-8; 3689-24-5; 3735-01-1; 3735-33-9; 3983-45-7; 5598-15-2; 6132-17-8; 6552-21-2; 6923-22-4; 7173-84-4; 7700-17-6; 10311-84-9; 13171-21-6; 14255-72-2; 16662-85-4; 16662-86-5; 16662-87-6; 17297-40-4; 23052-51-9; 23052-54-2; 23052-55-3; 24736-01-4 Role: ANT (Analyte), ANST (Analytical study) (chromatog. of); 2588-05-8P Role: SPN (Synthetic preparation), PREP (Preparation) (prepn. of) Gas-liq. chromatog. systems with KCl thermionic detection are described for anal. of <60 organophosphorus pesticides and alteration products. Each compd. was

chromatographed on 3 columns: 10% DC-200, QF-1/DC-200 mixed, and 2% stabilized diethylene glycol succinate liq. phases on 80-100 mesh Gas Chrom Q support. Retention times and response data are shown for all the pesticides chromatographed on each of the 3 columns. [on SciFinder (R)] 0004-5756 gas/ chromatog/ pesticides;/ chromatog/ gas/ pesticides;/ pesticides/ gas/ chromatog

1372. Watts, Randall R. and Storherr, Robert W (1967). Sweep codistillation cleanup of milk for determination of organophosphate and chlorinated hydrocarbon pesticides. *Journal - Association of Official Analytical Chemists* 50: 581-5.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1967:442609
Chemical Abstracts Number: CAN 67:42609
Section Code: 17
Section Title: Foods
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (chlorinated hydrocarbon and phosphorus-contg., detn. of, in milk); Milk (insecticide detn. in)
CAS Registry Numbers: 50-29-3; 56-38-2; 58-89-9; 60-57-1; 72-20-8; 76-44-8 (4,7-Methanoindene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-); 86-50-0; 121-75-5; 298-00-0; 298-02-2; 299-84-3; 309-00-2; 333-41-5; 563-12-2; 732-11-6; 786-19-6; 1024-57-3 Role: ANT (Analyte), ANST (Analytical study) (detn. of, in milk) A rapid extn. and sweep codistn. cleanup procedure is described for organophosphate and chlorinated pesticide residues in milk. EtOAc and MeOH are used as the extg. and the coagulating solvents, resp. The extn. app. includes a graduated cylindrical separatory funnel which expedites sample handling. A suitable aliquot of the ext. is concd. in a Kuderna-Danish concentrator, sweep codistd. for 30 min. to remove the fat, and detd. by gas chromatog. with the thermionic detector. Milk samples were fortified, on a whole-milk basis, prior to extn. with 3 different pesticide standard solns. The pesticide solns. contained as follows: (1) diazinon, methylparathion, malathion, parathion, and Trithion; (2) Thimet, ronnel, ethion, Imidan, and Guthion; and (3) lindane, heptachlor, aldrin, heptachlor epoxide, dieldrin, endrin, and p,p'-DDT. Av. recoveries of these pesticides were generally >90%. Sensitivity of 0.01 ppm. was readily obtainable for pesticides such as parathion. [on SciFinder (R)] 0004-5756 CHROMATOG/ PESTICIDES;/ GAS/ CHROMATOG/ PESTICIDES;/ PESTICIDES/ DETN/ MILK;/ RESIDUES/ PESTICIDES/ MILK;/ MILK/ PESTICIDES/ DETN;/ PHOSPHATE/ PESTICIDES/ MILK;/ CHLORINATED/ PESTICIDES/ MILK

1373. Weaver, D. L. (1979). Diffusion-controlled mean reaction times in biological systems with elliptical symmetry. *Biophysical Chemistry* 10: 245-251.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The mean reaction (encounter or absorption) time is calculated in terms of the system size and reaction probability parameters for three-dimensional systems with diffusion-controlled dynamics and in which there is spherical, prolate spheroidal or oblate spheroidal geometry. Analytical and numerical comparisons are made among the three geometries. For completeness, similar results are derived for a two-dimensional elliptically symmetrical system, and the probability of non-absorption (or reaction) is found for a semi-infinite three-dimensional space with prolate or oblate spheroidal symmetry. http://www.sciencedirect.com/science/article/B6TFB-44GPJ1P-8F/2/a50b1690ba2024a2fe70887b64bcfa9a

1374. Weaver, J. E., Hogmire, H. W., Brooks, J. L., and Sencindiver, J. C. (1990). Assessment of Pesticide Residues in Surface and Soil Water From a Commercial Apple Orchard. *Appl agric res* 5: 37-43.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Soil water in the vadose zone and surface runoff water in a commercial apple orchard in an upland area of West Virginia (USA) were assessed for residues of pesticides normally applied for control of diseases, arthropod pests, and vole control. Water in the vadose zone was sampled at depths of 6, 12, 24, and 36 in. (0.15, 0.3, 0.6, and 0.9 m) with suction lysimeters from early spring to midfall for two consecutive years. Endrin was the only pesticide detected; it had been applied to the study site five times during the period of 1974 to 1981. None of the 17 pesticides applied under an Integrated Orchard Management program during this study were detected in water samples. Concentrations of endrin in soil water ranged from 0.1 to 13.2 ppb (mug). About 20% of all soil water samples within the orchard tested positive (\ 0.1 ppb) for this pesticide. Endrin was detected at all depths; however, the frequency of positive samples and levels of residues tended to decrease with dep
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: CLIMATE
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS, MEDICINAL
KEYWORDS: General Biology-Conservation
KEYWORDS: Biochemical Studies-General
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Horticulture-Temperate Zone Fruits and Nuts
KEYWORDS: Pest Control
KEYWORDS: Rosaceae
LANGUAGE: eng

1375. Webber, M. D. and Wang, C (1995). Industrial organic compounds in selected Canadian soils. *Canadian Journal of Soil Science* 75: 513-24.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1996:176632
Chemical Abstracts Number: CAN 124:259739
Section Code: 19-9
Section Title: Fertilizers, Soils, and Plant Nutrition
CA Section Cross-References: 45, 60
Document Type: Journal
Language: written in English.
Index Terms: Herbicides; Pesticides; Soil pollution (industrial org. compds. in selected Canadian soils); Organic compounds; Phenols Role: POL (Pollutant), OCCU (Occurrence) (industrial org. compds. in selected Canadian soils); Soil amendments; Wastewater treatment sludge (industrial org. compds. in selected Canadian soils amended with sewage sludge); Aromatic hydrocarbons Role: POL (Pollutant), OCCU (Occurrence) (polycyclic, industrial org. compds. in selected Canadian soils); Fertilizers Role: AGR (Agricultural use), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence), USES (Uses) (sewage sludge, industrial org. compds. in selected Canadian soils amended with sewage sludge)
CAS Registry Numbers: 50-29-3; 50-31-7 (2,3,6-TBA); 50-32-8 (Benzo[a]pyrene); 51-28-5 (2,4-Dinitrophenol); 53-70-3 (Dibenz[a,h]anthracene); 56-55-3 (Benz[a]anthracene); 58-89-9 (g-BHC); 59-50-7; 60-57-1 (Dieldrin); 62-53-3 (Aniline); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5

(Methoxychlor); 72-55-9; 76-44-8 (Heptachlor); 77-47-4 (Hexachlorocyclopentadiene); 78-59-1 (Isophorone); 83-32-9 (Acenaphthene); 84-66-2 (Diethylphthalate); 84-74-2; 85-01-8 (Phenanthrene); 85-68-7 (Butylbenzylphthalate); 86-30-6 (n-Nitrosodiphenylamine); 86-73-7 (Fluorene); 86-74-8 (Carbazole); 87-68-3 (Hexachlorobutadiene); 87-86-5 (Pentachlorophenol); 88-06-2 (2,4,6-Trichlorophenol); 88-75-5 (2-Nitrophenol); 91-19-0 (Quinoxaline); 91-20-3 (Naphthalene); 91-22-5 (Quinoline); 91-58-7 (2-Chloronaphthalene); 91-94-1 (3,3'-Dichlorobenzidine); 93-65-2 (Mcpp); 93-72-1 (Silvex); 93-76-5 (2,4,5-T); 94-74-6 (Mcpa); 94-75-7 (2,4-D); 94-81-5 (Mcpb); 94-82-6 (2,4-Db); 95-50-1 (1,2-Dichlorobenzene); 95-57-8 (2-Chlorophenol); 98-95-3 (Nitrobenzene); 100-02-7 (4-Nitrophenol); 101-27-9 (Barban); 101-55-3 (4-Bromophenylphenylether); 105-67-9 (2,4-Dimethylphenol); 106-46-7 (1,4-Dichlorobenzene); 108-95-2 (Phenol); 110-86-1 (Pyridine); 111-44-4 (Bis-2-chloroethylether); 111-91-1 (Bis-2-chloroethoxymethane); 114-26-1 (Propoxur); 116-06-3 (Aldicarb); 117-81-7 (Bis-2-ethylhexylphthalate); 117-84-0 (Di-n-octylphthalate); 118-74-1 (Hexachlorobenzene); 119-65-3 (Isoquinoline); 120-12-7 (Anthracene); 120-36-5 (2,4-Dp); 120-72-9 (Indole); 120-82-1 (1,2,4-Trichlorobenzene); 120-83-2 (2,4-Dichlorophenol); 121-75-5; 122-34-9 (Simazine); 122-66-7 (1,2-Diphenylhydrazine); 122-88-3 (4-CPA); 129-00-0 (Pyrene); 131-11-3 (Dimethylphthalate); 191-24-2 (Benzo[ghi]perylene); 193-39-5 (Indeno(1,2,3-cd)pyrene); 205-99-2 (Benz[e]acephenanthrylene); 206-44-0 (Fluoranthene); 207-08-9 (Benzo[k]fluoranthene); 208-96-8 (Acenaphthylene); 218-01-9 (Chrysene); 309-00-2 (Aldrin); 319-84-6 (a-BHC); 333-41-5; 534-52-1 (4,6-Dinitro-o-cresol); 541-73-1 (1,3-Dichlorobenzene); 606-20-2 (2,6-Dinitrotoluene); 621-64-7; 732-11-6 (Phosmet); 789-02-6; 944-22-9 (Fonofos); 959-98-8 (a-Endosulfan); 1024-57-3 (Heptachlorepoxide); 1031-07-8 (Endosulfan sulfate); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1646-87-3 (Aldicarb sulfoxide); 1646-88-4 (Aldicarb sulfone); 1689-84-5 (Bromoxynil); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 2008-41-5 (Butylate); 2032-65-7 (Methiocarb); 2303-17-5 (Triallate); 2385-85-5 (Mirex); 2976-74-1 (2,3-D); 5103-71-9 (a-Chlordane); 5566-34-7 (g-Chlordane); 6190-65-4 (DeEthylatrazine); 7005-72-3 (4-Chlorophenylphenylether); 13071-79-9 (Terbufos); 16752-77-5 (Methomyl); 17708-57-5 (cis-Diallate); 17708-58-6 (trans-Diallate); 21087-64-9 (Metribuzin); 23135-22-0 (Oxamyl); 33213-65-9 (b-Endosulfan); 39638-32-9 (Bis-2-chloroisopropylether); 51218-45-2 (Metolachlor); 51338-27-3 (Diclofopmethyl) Role: POL (Pollutant), OCCU (Occurrence) (industrial org. compds. in selected Canadian soils) Studies were conducted to det. the concns. of a large no. of industrial org. compds. in selected Canadian agricultural soils and to assess the potential for land application of municipal sludges to cause significant polynuclear arom. hydrocarbon (PAH), organochlorine pesticide (OC), and polychlorinated biphenyl (PCB) contamination of agricultural land. Twenty-four Agriculture and Agri-Food Canada, Soil Quality Evaluation Program (SQEP) benchmark soils and six intensively cropped southern Ontario soils exhibited similar small concns. of a few base-neutral and acid (BN&A) extractable industrial org. compds. (seldom>1 mg kg-1 dry wt), PCBs (<200 mg kg-1 dry wt) and organophosphorus pesticides (OPs). Fonofos, the only OP detected, was obsd. at concns. <100 mg kg-1 dry wt. Neutral and phenoxy acid herbicide analyses for 13 soils (seven SQEP and six intensively cropped) indicated infrequent detection of these compds. There was no detection of carbamate herbicides. In most soils, only trace amts. (<10 mg kg-1 dry wt) of OCs were obsd., but in one intensively cropped soil, DDT exceeded 70 mg kg-1 dry wt. A greater incidence of compds. such as a-chlordane, dieldrin, aldrin, and DDT in intensively cropped than in other soils is assumed to reflect increased use of these compds. for intensive crop prodn. Soils treated with sludge according to recommended practice exhibited minor increases in PAH, OC, and PCB concns. There is no risk to human health or the environment from industrial org. compds., except possibly DDT, in Canadian agricultural soils that have received no sludge or from PAHs, OCs, and PCBs in soils that have received southern Ontario sludges according to recommended practice. [on SciFinder (R)] 0008-4271 sewage/ sludge/ soil/ org/ pollutant;/ soil/ pollution/ industrial/ org/ compd/ Canada

1376. Webster, C. J. and Cracknell, V. C. (1988). Treatment of Pig Mange. *Vet Rec* 122: 23.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: ABSTRACT.

MESH HEADINGS: Animals
MESH HEADINGS: Insecticides/*therapeutic use

MESH HEADINGS: Ivermectin/*therapeutic use
MESH HEADINGS: Phosmet/*therapeutic use
MESH HEADINGS: Scabies/drug therapy/*veterinary
MESH HEADINGS: Swine
MESH HEADINGS: Swine Diseases/*drug therapy
LANGUAGE: eng

1377. Webster, G. L. and Carpenter, K. J. (2002). Pollen Morphology and Phylogenetic Relationships in Neotropical Phyllanthus (Euphorbiaceae). *Botanical Journal of the Linnean Society, 138 (3) pp. 325-338, 2002*.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0024-4074
Descriptors: Clypeate
Descriptors: Diploporate colpi
Descriptors: Exine shields
Descriptors: Homoplasy
Descriptors: Phylloclades
Descriptors: Pilate exine
Descriptors: SEM
Descriptors: Vermiculate exine
Abstract: In order to provide new insights into phylogenetic relationships among the neotropical taxa of Phyllanthus, 28 illustrations are provided of the pollen grains of 22 selected species studied from 11 sections of the subgenera represented in the neotropics. Special attention has been given to subgenus Conami because of its variability in pollen morphology: of eight species illustrated, the apertures are diploporate colpi in three species and pores in five species; exine ornamentation is vermiculate in two species and pilate in the other six species. The six species in the neotropical sections Pityrocladus and Microglochidion (subgenus Emblica) are characterized by prolate grains with an increased number of colpi (4-8). Of particular interest are species in which the pollen exine is clypeate (with exine shields); clypeate pollen grains are illustrated in two species of subgenus Xylophylla and in one species of section Cyclanthera that has unique exine shields with single central pila. The pollen of the one Brazilian phylloclade-bearing species illustrated (in section Choretropsis) has 3-colporate grains with reticulate exine, typical for subgenus Phyllanthus, and very different from the clypeate grains of the West Indian phylloclade-bearing species in section Xylophylla. This pollen evidence clearly demonstrates homoplasy in the origin of phylloclades in Phyllanthus. Pollen morphological data suggest that the neotropical taxa of Phyllanthus have arisen following colonization from Africa (subgenus Kirganelia) and Asia (subgenus Emblica). (copyright) 2002 The Linnean Society of London.
39 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United Kingdom
Classification: 92.14.1.7 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Evolution
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Subfile: Plant Science

1378. Weckhuysen, B., Vriens, L., and Verachtert, H. (1994). Biotreatment of Ammonia- and Butanal-Containing Waste Gases. *Applied microbiology and biotechnology* 42: 147-152.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The biological removal of ammonia and

butanal in contaminated air was investigated by using, respectively, a laboratory-scale filter and a scrubber-filter combination. It was shown that ammonia can be removed with an elimination efficiency of 83% at a volumetric load of 100 m3 m-2 h-1 with 4-16 ppm of ammonia. During the experiment percolates were analysed for nitrate, nitrite, ammonium and pH. It was found that the nitrification in the biofilter could deteriorate due to an inhibition of Nitrobacter species, when the free ammonia concentration was rising in the percolate. It should be easy to control such inhibition through periodic analysis of the liquid phase by using a filter-scrubber combination. Such a combination was studied for butanal removal. Butanal was removed with an elimination efficiency of 80% by a scrubber-filter combination at a volumetric load of 100 m3 m-2 h-1 and a high butanal input concentration. Mixing the filter material with CaCO3 and pH contro
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: COMPARATIVE STUDY
MESH HEADINGS: GASES
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: BIOMEDICAL ENGINEERING
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: ENGINEERING
MESH HEADINGS: METABOLISM
MESH HEADINGS: SENSE ORGANS/PHYSIOLOGY
MESH HEADINGS: SENSE ORGANS/METABOLISM
MESH HEADINGS: BACTERIA/PHYSIOLOGY
MESH HEADINGS: BACTERIA/METABOLISM
MESH HEADINGS: MICROBIOLOGICAL TECHNIQUES
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BIODEGRADATION
MESH HEADINGS: INDUSTRIAL MICROBIOLOGY
MESH HEADINGS: FERMENTATION
MESH HEADINGS: INDUSTRIAL MICROBIOLOGY
MESH HEADINGS: FOOD MICROBIOLOGY
MESH HEADINGS: NITROBACTERACEAE
KEYWORDS: Comparative Biochemistry
KEYWORDS: Biochemistry-Gases (1970-)
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Biophysics-Bioengineering
KEYWORDS: Metabolism-General Metabolism
KEYWORDS: Sense Organs
KEYWORDS: Physiology and Biochemistry of Bacteria
KEYWORDS: Microbiological Apparatus
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Food and Industrial Microbiology-Biodegradation and Biodeterioration
KEYWORDS: Food and Industrial Microbiology-General and Miscellaneous
KEYWORDS: Nitrobacteraceae (1992-)
LANGUAGE: eng

1379. Weinbaum, Z., Schenker, M. B., O'malley, M. A., Gold, E. B., and Samuels, S. J. (1995). Determinants of

Disability in Illnesses Related to Agricultural Use of Organophosphates (Ops) in California. *American journal of industrial medicine* 28: 257-274.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Organophosphate (OP)-related illness data reported to the Worker Health and Safety Branch (WH&S) at the California Department of Food and Agriculture (CDFA, now Cal-EPA) in the years 1984-1988 were examined. Eight hundred and seventy-eight cases with systemic illness and 199 cases of skin disease or eye injury were identified. Systemic cases were divided into two outcome groups: (1) "severe," disability and/or hospitalization days (n = 361), and (2) "mild," no disability or hospitalization days (n = 372). For the remainder (n = 145) or 16.5% of the cases, illness severity could not be determined. Using multiple logistic regression, independent predictors of "severe" illness were identified among the systemic cases. Workers coming in contact with OP residue on commodities or in the field ("exposed to residue" or ER) (OR = 4.6, 95% CI = 3.03-7.07) and mixer/loaders/applicators (MLA) (OR = 4.1, 95% CI = 2.726.07) were at significantly increased risk of severe illness when
MESH HEADINGS: MINERALS
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: PLANTS/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Pathology
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Agronomy-General
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

1380. Weinhold, Paul A., Rounsifer, Mary Ellen, Charles, Linda, and Feldman, Douglas A. (1989). Characterization of cytosolic forms of CTP: choline-phosphate cytidylyltransferase in lung, isolated alveolar type II cells, A549 cell and Hep G2 cells. *Biochimica et Biophysica Acta (BBA) - Lipids and Lipid Metabolism* 1006: 299-310.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

The subcellular forms of cytidylyltransferase (EC 2.7.7.15) in rat lung, rat liver, Hep G2 cells, A549 cells and alveolar Type II cells from adult rats were separated by glycerol density centrifugation. Cytosol prepared from lung, Hep G2 cells, A549 cells and alveolar Type II cells contained two forms of the enzyme. These species were identical to the L-Form and H-Form isolated previously from lung cytosol by gel filtration. Liver cytosol contained only the L-Form. Rapid treatment of Hep G2 cells with digitonin released all of the cytoplasmic cytidylyltransferase activity. The released activity was present in both H-Form and L-Form. The molecular weight of L-Form was determined from sedimentation coefficients and Stokes radius values to be 97 690 +/- 10 175. Thus, the L-Form appears to be a dimer of the Mr 45 000 catalytic subunit. The f f [degree sign] value of 1.5 indicated that the protein molecule has an axial ratio of 10, assuming a prolate ellipsoid shape. The estimated molecular weight of the H-Form was 284 000 +/- 25 000. The H-Form was dissociated into L-Form by incubation of cytosol at 37[degree sign]C. Triton X-100 (0.1%) and chlorpromazine (1.0 mM) also dissociated the H-Form into L-Form. Western blot analysis indicated that both forms contained the catalytic subunit. An increase in Mr 45 000 subunit coincided with the increase in cytidylyltransferase activity in L-Form, which resulted from the dissociated of H-Form. The L-Form was dependent on phospholipid for activity. The H-Form was active without lipid. Phosphatidylinositol was present in the H-Form isolated from Hep G2 cells. The phosphatidylinositol dispersed when the H-Form was dissociated into L-Form. Phosphatidylinositol and phosphatidylglycerol cause L-Form to aggregate into a form similar to H-Form. Phosphatidylcholine/oleic acid (1:1 molar ratio) and oleic acid also aggregated the L-Form. Phosphatidylcholine did not produce aggregation. We conclude that the H-Form is the active form of cytidylyltransferase in cytoplasm. The H-Form appears to be a lipoprotein consisting of an apoprotein (L-Form dimer of the Mr 45 000 subunit) complexed with lipids. A change in the relative distribution of H-Form and L-Form in cytosol would alter the cellular activity and thus may be important in the regulation of phosphatidylcholine synthesis. CTP/ choline-phosphate cytidylyltransferase/ Cytidylyltransferase/ Phosphatidylcholine synthesis/ Isozyme structure/ Enzyme aggregate http://www.sciencedirect.com/science/article/B6T1X-4889755-3R/2/9a8903026c1294f8984d416dd91c441a

1381. Weintraub, F. P., Vylegzhanina, G. F., Dron, L. P., Keiser, L. S., Nesterova, I. P., and Patrashku, F. I (1978). Pathways of pesticide dissipation and decomposition.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

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Database: CAPLUS
Accession Number: AN 1979:17654
Chemical Abstracts Number: CAN 90:17654
Section Code: 5-13
Section Title: Agrochemicals
Document Type: Report
Language: written in English.
Index Terms: Pesticides (dissipation and decompn. of); Light (on pesticide dissipation and decompn.); Environment (pesticide dissipation and decompn. in)
CAS Registry Numbers: 1201-42-9 Role: PROC (Process) (as Gardona metabolite, photodecompn. of); 2310-17-0 Role: RCT (Reactant), RACT (Reactant or reagent) (hydrolysis of); 78-57-9; 1912-24-9 Role: BIOL (Biological study) (pea accumulation of, soil humidity and temp. effect on); 7287-19-6; 8073-77-6; 22248-79-9; 72172-70-4 Role: BIOL (Biological study) (persistence of, soil characteristics and moisture effect on); 85-41-6; 118-29-6; 732-11-6; 3735-33-9; 22248-79-9 Role: PROC (Process) (photodecompn. of); 122-14-5; 2636-26-2; 61090-94-6 Role: RCT (Reactant), RACT (Reactant or reagent) (volatility and hydrolysis of)
Photodecompn. curves are given for Gardona [22248-79-9] and cis-Gardona [22248-79-9] in sunlight and under UV light. Both the isomer and 2,4,5-trichlorophenacyl chloride [1201-42-9], the main metabolite, showed rapid degrdn. Methylnitrophos [122-14-5], cyanox [2636-26-2], and cyanoxone [61090-94-6] very highly volatile, but were resistant to hydrolysis in acid and neutral media. Phosalone [2310-17-0] was rapidly hydrolized in alk. medium, but was resistant to hydrolysis at pH ?6. In sunlight and UV light, phosalone decompd. slowly. Phthalophos [732-11-6] was rapidly converted by sunlight into its O analog [3735-33-9], hydroxymethylphthalimide [118-29-6], phthalimide [85-41-6], and a P-contg. unidentified compd. Sayfos [78-57-9] accumulation by the pea, grown from treated seed, depended on soil humidity and temp. The influence of soil characteristics and moisture on atrazine [1912-24-9], prometryne [7287-19-6], polytriazine [62655-79-2], and agelon [39464-88-5] persistence was also studied. [on SciFinder (R)] pesticide/ degrdn/ environment;/ light/ pesticide/ degrdn

1382. Weir, R. J. (1993). Organic Phosphates. *Clayton, g. D. And f. E. Clayton (ed.). Patty's industrial hygiene and toxicology, vol. Ii, part a: toxicology, 4th edition. Xvii+945p. John wiley and sons, inc.: New york, new york, usa* Chichester, england, uk. Isbn 0-471-54724-7.; 0: 711-753.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER HUMAN LABORATORY ANIMAL CARCINOGENICITY INDUSTRIAL HAZARD OCCUPATIONAL RISK USA

MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: HUMAN
MESH HEADINGS: SOCIAL BEHAVIOR
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: PATHOLOGY
MESH HEADINGS: METABOLISM
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: ANIMAL FEED
MESH HEADINGS: ANIMAL HUSBANDRY
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: OCCUPATIONAL HEALTH SERVICES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: VERTEBRATES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Social Biology
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Pathology
KEYWORDS: Metabolism-General Metabolism
KEYWORDS: Toxicology-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: Laboratory Animals-General (1970-)
KEYWORDS: Public Health: Environmental Health-Occupational Health
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Vertebrata-Unspecified
KEYWORDS: Hominidae
LANGUAGE: eng

1383. Weisz, R., Saunders, M., Smilowitz, Z., Huang, H., and Christ, B. (1994). Knowledge-Based Reasoning in Integrated Resistance Management: the Colorado Potato Beetle (Coleoptera: Chrysomelidae). *Journal of economic entomology* 87: 1384-1399.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The Colorado potato beetle, Leptinotarsa decemlineata (Say), is one of 13 insect and mite species in which development of insecticide resistance has become "critical." In this paper, we review methods for controlling this important agricultural pest while managing insecticide resistance. Many of these strategies were incorporated into an integrated pest management (IPM) program for northeastern potato growers and encapstilated in a knowledge-based expert system (PotatoES). Three years of field trails evaluating the IPM expert system's ability to act as a surrogate for a human specialist, its capability to manage Colorado potato beetle resistance development in experimental and commercial fields, and its impact on crop yields and production economics were conducted. Comparison of management recommendations made by PotatoES with those of a human IPM specialist demonstrated a high degree of agreement. Under experimental field conditions.

Colorado potato beetle insecticide
MESH HEADINGS: COMPUTER SYSTEMS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: DOCUMENTATION
MESH HEADINGS: INFORMATION SYSTEMS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ANIMAL
MESH HEADINGS: DISEASE
MESH HEADINGS: INSECTS/PARASITOLOGY
MESH HEADINGS: COLEOPTERA
KEYWORDS: General Biology-Information
KEYWORDS: Biochemical Studies-General
KEYWORDS: Toxicology-General
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Integrated Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Invertebrata
KEYWORDS: Coleoptera
LANGUAGE: eng

1384. Wen, H. Y. , Reischl, G. P., and Kasper, G. (1984). Bipolar diffusion charging of fibrous aerosol particles--II. charge and electrical mobility measurements on linear chain aggregates. *Journal of Aerosol Science* 15: 103-122.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Charge distributions on chain aggregates with thicknesses of less than 0.1 [mu]m and length-to-diameter ratios of 10 to several hundred were derived from measurements of electrical mobility distributions using a differential mobility analyzer (DMA), in combination with a condensation nuclei counter and an electrometer as particle detectors. The experiments are backed by measurements of chain size distributions with aerosol centrifuge and electron microscope, by DMA transfer function measurements, and by an investigation into the symmetry of the charging mechanism. Good agreement is found with the Boltzmann charge distribution when using a charging equivalent diameter DQE derived for conducting prolate spheroids.
http://www.sciencedirect.com/science/article/B6V6B-4887W0V-N/2/9e69f6a956dbca8683164da01548ced9

1385. Whitaker, D. R., Colvin, J. R., and Cook, W. H. (1954). The molecular weight and shape of Myrothecium verrucaria cellulase. *Archives of Biochemistry and Biophysics* 49: 257-262.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The following properties of Myrothecium cellulase were determined: diffusion coefficient, Dw, 20 = (5.6 +/- 0.1) x 10-7; sedimentation constant, Sw, 20 = (3.7 +/- 0.05) x 10-13; intrinsic viscosity, [[eta]] = 0.087 +/- 0.002 (assuming a nitrogen content of 16.0%). The molecular weight was

calculated to be 63,000 +/- 1500 (assuming a partial specific volume of 0.74 cc./g.). The frictional coefficient f/f0 was calculated to be 1.44 +/- 0.02. The hydrodynamically equivalent ellipsoid is prolate with an axial ratio variously estimated as between about five and ten.
http://www.sciencedirect.com/science/article/B6WB5-4DYM9J4-MX/2/dc7a4212eb14c17987b5edfe78d1b4bc

1386. Who Genev Switzerland (Pesticide Residues in Food. *Who tech. Rep. Ser. 612: 35pp. 1977 (36 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: PESTAB. Possible hazards to man arising from residues of pesticides present in foods were evaluated. Consideration was given to fenitrothion, carbaryl, diquat, and phosalone in relation to residue data, and chlordimeform and leptophos in light of potential toxicological hazards. Specific problems considered included the aliesterase- inhibiting compounds, organophosphorus insecticides which inhibit aliesterase activity in the liver and serum at concentrations lower than those that inhibit cholinesterase. Attention was also given to reversible cholinesterase inhibition, suspended production of chlordimeform, and the toxicological problems associated with leptophos. Potential hazards associated with leptophos were seen as two-fold: occupational or accidental exposure of individuals to high doses for short periods, and long-term low level exposure and possible build-up of the toxicant to threshold levels leading to ataxia. The evaluation of available data for the purpose of establishing acceptable daily intakes were reported for acephate, dialifor, edifenphos, methamidophos, phosmet, carbofuran, formetanate, methomyl, pirimicarb, bioresmethrin, cartap, chlormequat and choline chloride, maleic hydrazide, and propargite. Pesticides which had been previously evaluated included carbophenothion, pirimiphos-methyl, thiometon, carbendazim, captafol, diphenylamine, dodine, and paraquat.

1387. Whyte, Susan Kay (20031127). Agitation process for the preparation and activation of drugs and other substances, and production means. 90 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

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Database: CAPLUS
Accession Number: AN 2003:931209
Chemical Abstracts Number: CAN 140:787
Section Code: 1-12
Section Title: Pharmacology
CA Section Cross-References: 5, 17, 18, 63
Coden: PIXXD2
Index Terms: Agitation; Anti-inflammatory agents; Antiarthritics; Antiasthmatics; Antibacterial agents; Antibiotics; Anticoagulants; Antihistamines; Antioxidants; Antiviral agents; Apparatus; Arthritis; Asthma; Aves; Bakery products; Beer; Beverages; Bifidobacterium; Bifidobacterium bifidum; Breakfast cereal; Bronchodilators; Butter; Candy; Canis familiaris; Cheese; Chemicals; Chemotherapy; Chewing gum; Chocolate; Coffea; Dairy products; Decongestants; Drug delivery systems; Drugs; Enterococcus durans; Equus caballus; Felis catus; Food; Fungicides; Gene therapy; Herbicides; Human; Ice cream; Injury; Jams and Jellies; Lactobacillus acidophilus; Lactobacillus brevis; Lactobacillus casei; Lactobacillus delbrueckii; Lactobacillus plantarum; Lactobacillus rhamnosus; Lactobacillus salivarius; Lactococcus lactis; Mammalia; Margarine; Mayonnaise; Milk; Nutrients; Osteoporosis; Oxalis; Panax; Pesticides; Potato chips; Primates; Probiotics; Rolls; Roton; Ruminant; Salad dressings; Shortening; Sus scrofa domestica; Therapy; Vortex; Wine (agitation process for prepn. and activation of drugs and other substances, and prodn. means); Fertilizers; Pyrethrins Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (agitation process for prepn. and activation of drugs and other substances, and prodn. means); Carbohydrates; Elements; Gene; Glycoproteins; Hormones; Lipids; Lipoproteins; Mineral elements; Mucoproteins; Nucleic acids; Nucleoproteins; Nucleosides; Nucleotides; Oligonucleotides; Peptides; Retinoids; Steroids; Trace elements; Vitamins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)

(agitation process for prepn. and activation of drugs and other substances, and prodn. means); Mixers (agitators; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Bread (and bread dough; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Proteins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (and small mols.; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Cytotoxic agents (antiproliferative agents; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Tea products (beverages; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Bakery products (biscuits; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Bronchi (bronchoconstriction; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Bakery products (cakes; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Beverages (carbonated; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Proteins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (conjugates, with small mols.; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Meat (cured; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Food gels (desserts; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Tendon (disease, tendinitis; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Muscle (fibromyalgia; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Diptera (fly repellent; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Beverages (fruit drinks; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Desserts (gels; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Milk substitutes (human; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Drug delivery systems (injections, i.v.; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Drug delivery systems (injections, s.c.; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Peptides Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (melanotrophic; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Food (non-dairy whiteners; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Anti-inflammatory agents (nonsteroidal; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Skin (photoaging, anti-photoaging agents; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Bakery products (pies; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Egg white (processed; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Moth; Snail (repellent; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Food (sandwich spreads; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Inflammation (tendinitis; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Injury (trauma; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Fats and Glyceridic oils Role: FFD (Food or feed use), BIOL (Biological study), USES (Uses) (vegetable; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Cream substitutes (whipped, artificial whipped cream, and whipping agent; agitation process for prepn. and activation of drugs and other substances, and prodn. means); Milk preparations (yogurt; agitation process for prepn. and activation of drugs and other substances, and prodn. means)
CAS Registry Numbers: 128639-02-1 (Carfentrazone-ethyl) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (Aim; agitation process for prepn. and activation of drugs and other substances, and prodn. means); 50-29-3 (DDT); 52-68-6 (TRICHLORFON); 55-38-9 (FENthioN); 56-38-2 (PARAthioN); 58-89-9 (Lindane); 60-51-5 (DImethOATE); 60-57-1 (DIELDRIN); 61-82-5 (Amitrole); 62-73-7 (DICHLORVOS); 63-25-2 (CARBARYL); 72-20-8 (ENDRIN); 72-43-5 (MethoxyCHLOR); 72-54-8 (DDD); 72-55-9 (DDE); 74-81-7 (OctanoATE); 74-83-9 (Methyl Bromide); 75-15-0 (Carbon Disulfide); 75-60-5 (DimethylARSINIC acid); 76-

06-2 (ChloroPICRIN); 76-44-8 (HeptACHLOR); 78-48-8 (TRIBUFOS); 78-87-5 (1,2-Dichloropropane); 82-68-8 (QUINTOZENE); 83-79-4 (ROTEnonE); 86-50-0 (AZINPHOS-methyl); 86-86-2 (1-Naphthaleneacetamide); 86-87-3 (1-Naphthylacetic Acid); 87-86-5 (Pentachlorophenol); 88-85-7 (DINOSEB); 91-20-3 (Naphthalene); 93-65-2 (MECOprop); 93-71-0 (CDAA); 93-72-1 (FENOprop); 93-76-5 (2,4,5-T); 93-76-5D (2,4,5-T); 94-74-6 (MCPA); 94-75-7 (2,4-D); 94-81-5 (MCPB); 94-82-6 (2,4-DB); 96-12-8 (DBCP); 99-30-9 (DCNA); 101-05-3 (ANILAZINE); 101-21-3 (Chloropropham); 101-27-9 (BARBAN); 101-42-8 (FENURON); 106-93-4 (EthylENE DIbromide); 107-02-8 (ACROLEIN); 112-05-0 (Pelargonic acid); 114-26-1 (PropOXUR); 115-29-7 (Endosulfan); 115-32-2 (DICOFol); 115-90-2 (FENSULFOthioN); 116-06-3 (ALDICARB); 117-80-6 (DICHLONE); 118-74-1 (HexachloroBENZENE); 120-36-5 (DICHLORprop); 121-75-5 (MalAthioN); 122-14-5 (FEnitrothioN); 122-34-9 (Simazine); 122-42-9 (PropHAM); 123-33-1 (Maleic hydrazide); 132-66-1 (Naptalam); 132-67-2 (Naptalam Sodium Salt); 133-06-2 (CAPTAN); 133-90-4 (Chloramben); 137-26-8 (THIRAM); 137-30-4 (ZIRAM); 137-42-8 (MethAM SODIUM); 139-40-2 (PropAZINE); 140-56-7 (FENaminoSULF); 141-66-2 (DICROTOPHOS); 144-21-8 (DSMA); 145-73-3 (Endothall); 148-79-8 (THIABENDazoLE); 150-68-5 (MONURON); 298-00-0 (Methyl Parathion); 298-02-2 (PHORATE); 298-04-4 (DISULFOTON); 300-76-5 (NALED); 301-12-2; 309-00-2 (ALDRIN); 314-40-9 (Bromacil); 315-18-4 (MEXACARBATE); 327-98-0 (TrichloroNAT); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (DIAZInon); 510-15-6 (ChloroBENZILATE); 533-74-4 (DazoMET); 534-52-1 (DNOC); 555-37-3 (NEBURON); 556-61-6 (Methyl isothiocyanate); 650-51-1; 709-98-8 (Propanil); 732-11-6 (PHOSMET); 741-58-2 (Bensulide); 759-94-4 (EPTAM); 786-19-6 (CARBOphenOthioN); 834-12-8 (Ametryn); 886-50-0 (TERbutRYN); 944-22-9 (FONOFOS); 1014-70-6 (SIMETRYN); 1071-83-6 (Glyphosate); 1114-71-2 (Pebulate); 1134-23-2 (Cycloate); 1194-65-6 (CASORON); 1563-66-2 (CARBOfuran); 1582-09-8 (Trifluralin); 1596-84-5 (DaminoZIDE); 1610-18-0 (PROMETON); 1646-88-4 (ALDoxyCARB); 1689-84-5 (BromoxyNIL); 1689-99-2 (BUCTRIL); 1698-60-8 (CHLORIDazon); 1702-17-6 (Clopyralid); 1746-81-2 (MonoLINURON); 1836-75-5 (NitroFEN); 1861-32-1 (Dacthal); 1861-40-1 (Benefin); 1897-45-6 (ChloroTHALONIL); 1910-42-5 (PARAQUAT DIchloride); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 1918-02-1 (Picloram); 1918-16-7 (Propachlor); 1929-77-7 (Vernolate); 1929-82-4 (NITRAPYRIN); 1982-47-4 (ChloroXURON); 1982-49-6 (Siduron); 2008-41-5 (Butylate); 2032-59-9 (AminoCARB); 2032-65-7 (MethioCARB); 2104-64-5 (EPN); 2163-80-6 (MSMA); 2164-08-1; 2164-17-2 (Fluometuron); 2212-67-1 (Molinate); 2227-17-0 (DIENOCHLOR); 2302-17-2 (ASULOX); 2303-16-4 (DIALLATE); 2303-17-5 (Triallate); 2310-17-0 (PHOSALONE); 2312-35-8 (PropARGITE); 2385-85-5 (MIREX); 2425-06-1 (CAPTAFOL); 2439-01-2 (QUINOmethioNATE); 2439-10-3; 2593-15-9 (ETRIdiazoLE); 2597-03-7 (PhenTHOATE); 2631-37-0 (PROMECARB); 2675-77-6 (ChloroNEB); 2758-42-1; 2764-72-9 (Diquat); 2921-88-2 (CHLORPYRIFOS); 3337-71-1 (Asulam); 3383-96-8 (TEMEPHOS); 3478-94-2 (PIPERALIN); 3861-41-4 (Bromoxynil Butyrate); 4147-51-7 (DIpropETRYN); 4685-14-7 (Paraquat); 5221-53-4 (DImethIRIMol); 5234-68-4 (CARBOXIN); 5259-88-1 (OxyCARBOXIN); 5598-13-0 (Chlorpyrifos-Methyl); 5902-51-2 (Terbacil); 6164-98-3 (Chlordimeform); 6923-22-4 (MonoCROTOPHOS); 6988-21-2 (DIOXACARB); 7287-19-6 (Prometryn); 7775-09-9 (SODIUM CHLORATE); 7778-39-4 (Arsenic Acid;); 7786-34-7 (MEVINPHOS); 8001-35-2 (TOXAphenE); 8018-01-7 (MANCOZEB); 8065-48-3 (DEMETON); 9006-42-2 (METIRAM); 10265-92-6 (MethamidoPHOS); 10453-86-8 (RESmethRIN); 10605-21-7 (CARBENDAZIM); 12122-67-7 (ZINEB); 12407-86-2 (TRImethACARB); 12427-38-2 (MANEB); 12771-68-5 (ANCYMIDOL); 12789-03-6 (CHLORDANE); 13071-79-9 (TERBUFOS); 13121-70-5 (CYhexATIN); 13171-21-6 (PHOSPHamidoN); 13194-48-4 (EthOprop); 13356-08-6 (FENbutATIN OXIDE); 13360-45-7 (CHLORBROMURON); 13684-56-5 (Desmedipham); 13684-63-4 (Phenmedipham); 14484-64-1 (FERBAM); 15096-52-3 (CRYOLITE); 15299-99-7 (Napropamide); 15310-01-7 (BENODANIL); 15972-60-8 (Alachlor); 16672-87-0 (EthEPHON); 16752-77-5 (MethOMYL); 17804-35-2 (BENOMYL); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazon); 19750-95-9 (Chlordimeform hydrochloride); 20354-26-1 (Methazole); 21087-64-9 (Metribuzin); 21725-46-2 (Cyanazine); 22224-92-6 (FENAMIPHOS); 22248-79-9 (TETRACHLORVINPHOS); 22781-23-3 (BENDIOCARB); 23103-98-2 (PIRIMICARB); 23135-22-0 (OXAMYL); 23184-66-9 (ButACHLOR); 23422-53-9 (FORMETANATE hydrochloride); 23505-41-1 (Pirimiphos-Ethyl); 23564-05-8; 23950-58-5

(Pronamide); 24307-26-4 (MEPIQUAT chloride); 24691-80-3 (FENfurAM); 25057-89-0 (Bentazon); 25311-71-1 (ISOFENPHOS); 25606-41-1 (PropAMOCARB hydrochloride); 25954-13-6 (FOSamineammonium); 26225-79-6 (Ethofumesate); 26259-45-0 (SECBUMETON); 26399-36-0 (PROFLURALIN); 26644-46-2 (TRIFORINE); 26648-01-1 (DESICATE); 26952-23-8 (Dichloropropene); 27314-13-2 (Norflurazon); 28249-77-6 (Thiobencarb); 29091-05-2 (DINITRamine); 29091-21-2 (Prodiamine); 30560-19-1 (ACEPHATE); 32357-46-3; 32809-16-8 (PROCYMIDONE); 33089-61-1 (AMITRAZ); 33245-39-5 (FLUCHLORALIN); 33820-53-0 (ISOpropALIN); 34014-18-1 (Tebuthiuron); 34256-82-1 (Acetochlor); 35367-38-5 (DIFLUBENZURON); 35400-43-2 (SULPROFOS); 35554-44-0 (IMAZALIL); 36734-19-7 (IPRODIONE); 37273-91-9 (METaldehyde); 37764-25-3 (DICHLORMID); 37924-13-3 (Perfluidone); 38641-94-0 (ROUNDUP); 38725-95-0 (Diethatyl); 38727-55-8 (ANTOR); 39148-24-8 (FOSETYL ALUMINUM); 39300-45-3 (DINOCAP); 39515-41-8 (FENpropATHRIN); 40487-42-1 (Pendimethalin); 40843-25-2 (Diclofop); 41198-08-7 (PROFENOFOS); 41814-78-2 (TRICYCLazoLE); 42509-80-8 (ISazoFOS); 42576-02-3 (BIFENOX); 42874-03-3 (Oxyfluorfen); 43121-43-3 (TRIADIMEFON); 43222-48-6 (AVENGE); 49866-87-7 (Difenzoquat); 50471-44-8 (VINCLOZOLIN); 50594-66-6 (Acifluorfen); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 51276-47-2 (Glufosinate); 51338-27-3 (HOELON); 51630-58-1 (FENVALERATE); 51707-55-2 (THIDIAZURON); 51990-04-6 (ERADICANE); 52315-07-8 (CYPERmethRIN); 52645-53-1 (PERmethRIN); 53780-34-0 (MEFLUIDIDE); 54593-83-8 (CHLORethoxyFOS); 55219-65-3 (TRIADIMENol); 55283-68-6 (Ethalfluralin); 55290-64-7 (DImethIPIN); 55335-06-3 (Triclopyr); 55512-33-9 (Pyridate); 57018-04-9 (TOLCLOFOS-methyl); 57213-69-1 (GRANDSTAND); 57837-19-1 (METALAXYL); 57966-95-7 (CYMOXANIL); 58138-08-2 (TRIDIPHANE); 59669-26-0 (ThioDICARB); 59756-60-4 (FLURIDONE); 60168-88-9 (FENARIMol); 60207-90-1 (PropICONazoLE); 62476-59-9 (BLAZER); 62924-70-3 (FLUMETRALIN); 64700-56-7 (RELY); 64902-72-3 (GLEAN); 65859-56-5 (ANSAR); 66215-27-8 (CYROMAZINE); 66230-04-4 (ESFENVALERATE); 66441-23-4 (Fenoxaprop-ethyl); 66841-25-6 (TRALOmethRIN); 67485-29-4 (HYDRAmethylnon); 67747-09-5 (PROCHLORAZ); 68049-83-2 (Azafenidin); 68085-85-8 (CYHALOTHRIN); 68359-37-5 (CYFLUTHRIN); 68694-11-1 (TRIFLUMIZOLE); 68924-90-3 (SURPASS); 69806-34-4 (Haloxyfop); 69806-40-2 (HALoxyFOP-methyl); 69806-50-4 (FLUAZIFOP-butyl); 70124-77-5 (FLUCYTHRINATE); 71626-11-4 (BENALAXYL); 71751-41-2 (ABAMECTIN); 72178-02-0 (Fomesafen); 72490-01-8 (FENoxyCARB); 74051-80-2 (Sethoxydim); 74115-24-5 (CLOFENTEZINE); 74222-97-2 (OUST); 74223-56-6 (Sulfometuron); 74223-64-6 (ALLY); 76578-12-6 (Quizalofop); 76578-14-8 (ASSURE); 76738-62-0 (PACLObutRazoL); 77182-82-2 (GLUFOSINATE-ammonium); 77501-63-4 (Lactofen); 79241-46-6 (FUsilADE DX); 79277-27-3 (PINNACLE); 79277-67-1 (Thifensulfuron); 79510-48-8 (Metsulfuron); 81334-34-1 (IMAZAPYR); 81335-37-7 (Imazaquin); 81335-77-5 (Imazethapyr); 81405-85-8 (ASSERT); 81406-37-3 (STARANE); 81591-81-3 (Sulfosate); 81777-89-1 (Clomazone); 82097-50-5 (Triasulfuron); 82558-50-7 (Isoxaben); 82657-04-3 (BIFENTHRIN); 83055-99-6 (LONDAX); 83066-88-0 (Fluazifop-P); 84087-01-4 (Quinclorac); 84332-86-5 (CHLOZOLINATE); 85509-19-9 (FLUsilazoLE); 86209-51-0 (BEACON); 87546-18-7 (RESOURCE); 87547-04-4 (Flumiclorac); 87674-68-8 (FRONTIER); 87818-31-3 (CiNmethylin); 87820-88-0 (Tralkoxydim); 88671-89-0 (MYCLObutanIL); 90982-32-4 (Chlorimuron-ethyl); 94125-34-5 (Prosulfuron); 98967-40-9 (Flumetsulam); 99129-21-2 (Clethodim); 99283-01-9 (Bensulfuron); 100728-84-5 (Imazamethabenz); 100784-20-1 (SEMPRA); 101200-48-0 (EXPRESS); 101205-02-1 (Cycloxydim); 102851-06-9 (TAU-FLUVALINATE); 103361-09-7 (Flumioxazin); 104098-48-8 (Imazameth); 106040-48-6 (Tribenuron); 109293-97-2 (Diflufenzopyr); 111353-84-5 (Ethametsulfuron); 111991-09-4 (Nicosulfuron); 113036-87-6 (Primisulfuron); 114311-32-9 (Imazamox); 117718-60-2 (Thiazopyr); 120162-55-2 (AZIMSULfuroN); 122836-35-5 (Sulfentrazone); 122931-48-0 (Rimsulfuron); 123342-93-8 (Pyrithiobac); 123343-16-8 (STAPLE); 126535-15-7 (UPBEET); 135397-30-7 (Halosulfuron); 135990-29-3 (Triflusulfuron); 141112-29-0 (Isoxaflutole); 141776-32-1 (Sulfosulfuron); 142459-58-3 (Flufenacet); 144651-06-9 (Oxasulfuron); 144740-53-4 (FLUPYRSULfuroN methyl); 147150-35-4 (FIRST-RATE); 159518-97-5 (Cloransulam); 181274-17-9 (Flucarbazone-sodium); 404928-85-4 (SCYTHE); 454182-53-7 (DISTINCT); 628304-14-3 (Biodynamic Preparation 500) Role: AGR (Agricultural use), BIOL (Biological study), USES (Uses) (agitation process for prepn. and activation of drugs and other

substances, and prodn. means); 7732-18-5 (Water) Role: MSC (Miscellaneous) (agitation process for prepn. and activation of drugs and other substances, and prodn. means); 50-81-7 (Ascorbic acid); 144-55-8 (Sodium bicarbonate); 471-34-1 (Calcium carbonate); 1314-13-2 (Zinc oxide); 1464-42-2 (Selenomethionine); 7439-95-4 (Magnesium); 7440-42-8 (Boron); 7440-70-2 (Calcium); 7487-88-9 (Magnesium sulfate); 7693-13-2 (Calcium citrate); 17949-65-4 (Zinc picolinate); 18559-94-9 (Ventolin); 18962-61-3 (Magnesium aspartate); 22454-86-0 (Calcium orotate); 34717-03-8 (Magnesium orotate); 80474-14-2 (Flixotide); 136112-01-1 (Seretide) Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (agitation process for prepn. and activation of drugs and other substances, and prodn. means)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: AU
Priority Application Number: 2002-2400
Priority Application Date: 20020520
Citations: Maa, Y; J Microencapsulation 1996, 13(4), 419
Citations: Pharmaceutical Machine Sales Ltd; http://www.pmsuk.com/Stocksheets/silverson1406.htm 2003
Citations: Taki Chem Co Ltd; JP 07053411 A 1995
Citations: Smithkline Beecham Plc; WO 0032591 A 2000
Citations: Rath, M; EP 1163904 A 2001 The invention discloses a process for the prepn. and activation of a substance and a means for producing the activated substance. In particular, the invention discloses a method for treating a disease in a subject in need of such treatment, comprising administering a substance or active agent which comprises one or more components which have been agitated such that a harmonic of 20-50 Hz has been produced, in an amt. effective to treat the disease, with the proviso that the disease is not an airway disorder. [on SciFinder (R)] A61K041-00. A61K031-375; A61K033-06; A61P019-02; A61P019-10; A61P019-04. agitation/ drug/ activation/ therapeutic

1388. Windsor, J. Brian, Roux, Stan J., Lloyd, Alan M., and Thomas, Collin E (20050217). Methods and compositions for increasing the efficacy of biologically-active ingredients such as antitumor agents. 243 pp.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: PATENT.

Database: CAPLUS
Accession Number: AN 2005:141200
Chemical Abstracts Number: CAN 142:254568
Section Code: 1-6
Section Title: Pharmacology
Coden: PIXXD2
Index Terms: Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) ((oxydi-2,1-ethanediyl)bis[cocoalkyldimethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Zeolites Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Ag; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Zeolites Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (AgCu; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Zeolites Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (AgZn; methods and compns. for increasing efficacy of biol. active

ingredients such as antitumor agents); Surfactants (Armul, Berol, Emcol, Emphos, Emulgator, Emulsogen, Flomo, Pluraflo E4A, Surflo, Toximul, Trycol, Tryfac; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Solvent naphtha (Arom. 100, Hi-Sol 15, Lubrizol 544; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Proteins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Bacillus thuringiensis kurstaki; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Calendula officinalis; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Balsams Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Canadian; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Chenopodium; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Isoalkanes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C11-12; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Alcohols Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C11-15, ethoxylated, compds. with iodine; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Alcohols Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C11-15-secondary, ethoxylated, Tergitol 15-S-20; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Isoalkanes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C12-14; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Alcohols Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C12-15; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C12-18-alkyltrimethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Sulfonic acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C20-30-alkanesulfonic, zinc salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Alcohols Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C4-12; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Alkanes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C5-20; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Alcohols Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C6-12; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Diglycerides; Glycerides; Monoglycerides Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C8-10 monoglycerides and diglycerides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Alcohols Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (C8-10; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Polysiloxanes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (DB-110A, Y-30; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Solvents (Dowanol, Espesol; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Pheromones Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (German cockroach; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Bacillus thuringiensis kurstaki (HD-1; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Soaps Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Ivory Snow; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU

(Therapeutic use), BIOL (Biological study), USES (Uses)   (Japan wax; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Sarcoma   (Kaposi's; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Gene Role: BSU (Biological study, unclassified), BIOL (Biological study)   (MDR, Arabidopsis thaliana; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Polyurethanes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)   (Macroplast; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)   (Melaleuca alternifolia; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Stabilizing agents   (Nuostabe V 1913; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Hydrocarbon oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Orchex 796; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Balsams Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)   (Peru; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)   (Ruta graveolens, Rutaceae; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)   (Siberian fir; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Emulsifying agents   (Sponto; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Antimicrobial agents (Sterilix; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Named reagents and solutions Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)   (Stoddard; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Lymphoproliferative disorders (Waldenstrom's macroglobulinemia; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Kidney   (Wilms'; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Urethanes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (adhesives; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Immunostimulants   (adjuvants, T-Mulz; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Flours and Meals   (alfalfa; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Amines; Petroleum resins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)   (aliph.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Helleborus; Schoenocaulon   (alkaloids; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Sulfonic acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)   (alkanesulfonic, potassium salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Surfactants   (alkanolamides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)   (alkenyldimethylethyl, bromides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds; Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses)   (alkyl(dichlorobenzyl)dimethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyl[(dichlorophenyl)methyl]dimethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Polyoxyalkylenes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkylaryl ethers; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkylbenzyldimethyl, alkylamines; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkylbenzyldimethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyldi(hydroxyethyl)methyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyldimethyl(dimethylbenzyl), chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyldimethyl(ethylbenzyl), chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyldimethyl(ethylbenzyl), cyclohexylsulfamtes; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyldimethyl(hydroxyoxopyranylmethyl), chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyldimethyl(isopropylbenzyl), chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyldimethyl(isopropylphenyl), chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds; Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyldimethylethyl, bromides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyldimethylethylbenzyl, cyclohexylsulfamates; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyldimethylethylbenzyl, cyclohexylsulfonates; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyltrimethyl, bromides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (alkyltrimethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Waxes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (ambergris; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (amine salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Caseins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (ammonium complexes; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (anise; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Antitumor agents (antibiotic; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Cytotoxic agents (antimetabolites; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Antibiotics; Drug resistance (antitumor; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Petroleum Role: PAC (Pharmacological activity), THU

(Therapeutic use), BIOL (Biological study), USES (Uses) (arom., alkylated; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Straw (barley; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (bay; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (benzyl(hydrogenated tallow alkyl)dimethyl, bentonite salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (benzyl-C12-14-alkyldimethyl; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (benzyl-C12-16-alkyldimethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (benzyl-C12-18-alkyldimethyl, salts with 1,2-benzisothiazol-3(2H)-one 1,1-dioxide (1:1); methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (benzylcoco alkylbis(hydroxyethyl), chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (bergamot; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (bis(hydrogenated tallow alkyl)dimethyl, Me sulfates; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Prunus amygdalus (bitter almond; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Slags (blast-furnace; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Linseed oil Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (boiled; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (bone oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (cade; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Pigments (cadmium yellow; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (cajuput; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Shale Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (calcareous; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Caseins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (calcium complexes; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (camphor; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Feed (canary seed; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Waxes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (candle; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Syrups (cane; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Gelatins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (capsules; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Head and Neck; Head and Neck (carcinoma; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Feed (cat food;

methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Milk substitutes (cattle; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (cedar leaf; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (cedarwood; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Uterus (cervix; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (chamomile, German; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Perfumes (cherry fragrance oil 493; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Paraffin waxes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (chloro; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Carcinoma; Chorion (choriocarcinoma; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (cinnamon; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (citronella; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Cellulose pulp (citrus; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (citrus; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (clove; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Phenols Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (coal tar; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Naphtha Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (coal; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Amines Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (coco alkyl, compds. with tetrachlorophenol (1:1); methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Amides Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (coco, N-(hydroxyethyl); methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (coco, cadmium salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (coco, diethylamine salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Theobroma cacao (cocoa shells; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Amine oxides Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (cocoalkyldimethyl; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Intestine (colon; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Bentonite Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (compd. with dimethyldioctadecylammonium chloride; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Bakery products (cookies; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Naphthenic acids; Resin acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (copper salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Flours and Meals (corn, hearts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Flours and Meals (corn; methods and compns. for increasing efficacy of biol.

active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (cottonseed-oil, Me esters; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Flours and Meals (cottonseed; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Avena sativa; Triticum aestivum (cracked; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Bread (crumb; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Syzygium aromaticum (crushed; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (cubeb; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (di(alkyloxypropyl)dimethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (dialkylbenzylmethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (dialkyldimethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (dialkyldimethyl, polynaphthylamines; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Quaternary ammonium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (dicoco alkyldimethyl, chlorides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (dimer acids; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Coal tar Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (distillate, heavy oils; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Coal tar Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (distillate, upper; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Petroleum products (distillates, C12-30-arom.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Petroleum products (distillates, KM spray oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Petroleum products (distillates, aliph.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Petroleum products (distillates, arom.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Petroleum products (distillates, hydrotreated light paraffinic; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Petroleum products (distillates, refined; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Petroleum products (distillates, solvent-refined light paraffinic; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Petroleum products (distillates; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Lime Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (dolomitic; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Blood (dried; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); High throughput screening (drug; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Nicotiana tabacum (dust; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Uterus (endometrium, adenocarcinoma; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Linseed oil Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (epoxidized; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Myeloproliferative disorders (essential thrombocythemia; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (esters; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Monoglycerides Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (ethoxylated coco; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Lanolin Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (ethoxylated, acetate; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Lanolin Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (ethoxylated; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (eucalyptus; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Citrus (ext. and meal; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Allium cepa; Glycine max; Juniperus communis; Malt; Myrica cerifera (ext.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Calendula officinalis; Gland; Lavandula; Lonchocarpus; Salvia; Tanacetum (exts.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Alcohols Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (fatty, C4-16; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Alcohols Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (fatty; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (fish-oil, potassium salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (fish; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Zea mays (flour and meal, hearts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Cottonseed; Glycine max; Secale cereale; Zea mays (flour and meal; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Wood (flour; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Polyesters Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (foam, UL-94 HF1 listed; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Mycosis (fungoides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Repellents (game; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (geranium; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Vitis vinifera (grape pomace; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Pseudotsuga menziesii (ground bark; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Oryza sativa (ground hulls; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Sesamum indicum (ground plant; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Avena sativa; Corncob (ground; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Coffea (grounds; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Wood (hard, oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Carcinoma; Carcinoma (head and neck; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Naphtha Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (heavy arom.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Drug screening (high throughput; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Coal tar pitch (high-temp.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents);

Prunus amygdalus (hulls, shells; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Glycine max; Oryza sativa (hulls; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Neoplasm (humoral hypercalcemia of malignancy; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Resin acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (hydrogenated, Me esters; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Castor oil; Rosin; Soybean oil Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (hydrogenated; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Food analysis (hydrolyzed corn-contg.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Syrups (hydrolyzed starch; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Zea mays (hydrolyzed; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Paraffin waxes Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (hydrotreated; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Pancreatic islet of Langerhans (insulinoma; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Syrups (invert; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Antibacterial agents (iodophors; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Pigments (iron oxide; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (jasmine; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Paints (latex; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (lavender; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Naphthenic acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (lead salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Eucalyptus; Mentha pulegium (leaves; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (lemon; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (lemongrass; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Skin (lesion; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Naphtha Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (light arom.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (lime; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Dyes (liq., Green M; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Capsicum annuum annuum (longum group, paprika; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Paraffin oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (low-mol.-wt.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (margosa; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Beta vulgaris saccharifera; Fish; Meat; Medicago sativa (meal; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Flours and Meals (meat meal; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Myocastor coypus (meat; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES

(Uses) (menhaden; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Naphthenic acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (mercury salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Acacia; Acute lymphocytic leukemia; Adrenal cortex; Agrobacterium tumefaciens; Agrobacterium vitis; Agrotis segetum granulovirus; Alkylating agents; Allium cepa; Allium sativum; Ampelomyces quisqualis; Anthracene oil; Antibiotic resistance; Apparatus; Arabidopsis thaliana; Arachis hypogaea; Aschersonia aleyrodis; Autographa californica nucleopolyhedrovirus; Avena sativa; Bacillus amyloliquefaciens; Bacillus cereus; Bacillus sphaericus; Bacillus subtilis; Bacillus thuringiensis; Bacillus thuringiensis darmstadiensis; Bacillus thuringiensis morrisoni; Beeswax; Bladder; Bone meal; Brain; Bran; Burkholderia cepacia; Capsicum; Caramel; Carcinoid; Cheese; Chronic lymphocytic leukemia; Chronic myeloid leukemia; Cinnamon; Colloids; Combination chemotherapy; Cork; Corncob; Cottonseed meal; Creosote; Cytotoxic agents; Daucus carota; Desmodium; Drug delivery systems; Drug screening; Drugs; Dyes; Egg; Esophagus; Filter paper; Flours and Meals; Fumigants; Fungicides; Gentiana; Glues; Gossypium hirsutum; Hairy cell leukemia; Helicoverpa zea; Helicoverpa zea nucleopolyhedrovirus; Herbicides; Hodgkin's disease; Honey; Human; Insecticides; Jet aircraft fuel; Liliopsida; Lung; Lymantria dispar nucleopolyhedrovirus; Magnoliopsida; Mammary gland; Matricaria recutita; Meat; Medicago sativa; Melanoma; Mentha piperita; Milk; Mint; Molasses; Multiple myeloma; Neodiprion lecontii nucleopolyhedrovirus; Neodiprion sertifer; Nicotiana tabacum; Nosema locustae; Oatmeal; Odor and Odorous substances; Orgyia pseudotsugata nucleopolyhedrovirus; Oryza sativa; Ovary; Paecilomyces fumoso-roseus; Paecilomyces lilacinus; Paenibacillus lentimorbus; Paints; Paper; Paperboard; Peanut butter; Phlebia gigantea; Phlebiopsis gigantea; Phytophthora palmivora; Piper nigrum; Polycythemia vera; Propellants; Prostate gland; Pseudomonas chlororaphis; Pseudomonas fluorescens; Pseudomonas syringae; Puccinia canaliculata; Quassia; Quillaja; Rabbit calicivirus; Raisin; Rhizobium leguminosarum; Rhizobium leguminosarum phaseoli; Rosmarinus officinalis; Sawdust; Seaweed; Sinorhizobium meliloti; Skin; Sludges; Solanum tuberosum; Sorghum bicolor; Soybean meal; Sphagnum; Spodoptera exigua nucleopolyhedrovirus; Staphylococcus aureus; Stomach; Streptomyces griseoviridis; Tar oils; Testis; Thickening agents; Thymus; Tomato mosaic virus; Trichoderma harzianum; Trichoderma polysporum; Trigonella foenum-graecum; Triticum aestivum; Urogenital system; Verticillium lecanii; Wheat flour; Whey; Wool; Xanthomonas campestris poannua; Yeast; Zea mays (methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Amino acids; Aminoglycosides; Androgens; Asbestos; Asphalt; Bentonite; Canola oil; Carbon black; Caseins; Castor oil; Chlorinated natural rubber; Coal tar; Coconut oil; Cod liver oil; Collagens; Corn oil; Corticosteroids; Cottonseed oil; Creosote oil; Cytokinins; Diatomite; Epoxy resins; Essential oils; Feldspar-group minerals; Fertilizers; Gasoline; Gelatins; Gibberellins; Glycopeptides; Granite; Growth regulators; Humic acids; Jojoba oil; Kaolin; Kerosene; Lard; Ligroine; Lime; Linseed oil; Macrolides; Mica-group minerals; Naphthenic acids; Naphthenic oils; Natural products; Nitrile rubber; Olive oil; Palm oil; Paraffin oils; Paraffin waxes; Peanut oil; Perlite; Petrolatum; Petroleum hydrocarbons; Petroleum resins; Petroleum spirits; Phenols; Phosphoproteins; Plastics; Polyamide fibers; Polyamides; Polyenes; Polyoxyalkylenes; Polyvinyl butyrals; Progestogens; Protein hydrolyzates; Pumice; Pyrethrins; Rape oil; Resins; Rosin; Rubber; Safflower oil; Sand; Saponins; Shale; Shellac; Silica gel; Soapstone; Soybean oil; Tall oil; Tallow; Tetracyclines; Tung oil; Turpentine; Waxes; Wood tar; Zeins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (mink; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Onium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (morpholinium, 4-Et, ethylsulfates; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Onium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (morpholinium, 4-ethyl-4-soya alkyl, Et sulfates; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Onium compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (morpholinium, alkylmethyl, sulfates; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Anagrapha falcifera (multi-nuclear polyhedrosis virus; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Skin (mycosis fungoides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Abies (needle oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Nerve (neuroblastoma; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Chloramines Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (nitrogen mustards; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fuel oil (no. 1, no. 2, no. 4, no. 6; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Diesel fuel (no. 2; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Lymphoma (non-Hodgkin's; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Surfactants (nonionic; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Meat (nutria; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Aloe barbadensis; Lavandula hybrida (oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Coal tar Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Resins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (oleoresins, capsicum; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Resins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (olibanum; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (orange, sweet; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Bone; Sarcoma (osteosarcoma; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Solvents (oxygenated; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Citrus limon (peel oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (pennyroyal, Hedeoma pulegioides; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (pepper, Piper nigrum berry; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (peppermint; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Tar Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (pine, oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Tar oils (pine; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils; Tar Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (pine; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Rosin Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (polymd.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Linseed oil Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (polymer with dicyclopentadiene; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Linseed oil Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (polymer with maleic anhydride and tung oil, Kelsol 5134; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Vinyl compounds Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (polymers; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Malus pumila (pomace; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Feed (poultry; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Gelatins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (powd.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Beta vulgaris (powder; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Carcinoma (pulmonary small-cell; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Citrus sinensis; Orange (pulp; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Bombyx mori (pupae; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Derris (resins; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Antitumor agents (resistance to; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Sarcoma (rhabdomyosarcoma; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Cucurbita foetidissima (root powder; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (rosemary; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (rosin; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Flours and Meals (rye; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Naphthenic acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (salts, compd. with dodecyldimethylbenzylammonium; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Resin acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (salts, tributyltin salt; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Sulfonic acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (sassafras; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Algae (sea, ext.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Weed (seed oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Panicum (seed; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (sesame; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fertilizers Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (sewage sludge; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Carya illinoinensis (shell, flour; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Egg (shell; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Juglans regia (shells, ground; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Arachis hypogaea; Clam; Oyster (shells; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Aerogels (silica; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Lung (small-cell carcinoma; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Coconut oil Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (soap; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Caseins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (sodium complexes; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Polyphosphoric acids; Sulfonic acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (sodium salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Soaps Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (sodium tallow; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Animal tissue (soft, neoplasm, sarcoma; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Sarcoma (soft-tissue; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Amines Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (soya alkyl, ethoxylated; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (soya, Me esters; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (soya, tertiary amine salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Flours and Meals (soybean; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Proteins Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (soybean; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (spearmint; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (sperm oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Gliocladium catenulatum; Paenibacillus popilliae; Phlebiopsis gigantea (spores; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Hordeum vulgare (straw; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Bacillus thuringiensis san diego (subsp San Diego; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Cod liver oil Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (sulfonated; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Petroleum Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (sulfurized; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Helianthus annuus (sunflower seed; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Seed (sunflower; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (tall-oil, copper salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (tall-oil, potassium salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fatty acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (tall-oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Soaps Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (tallow; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (thyme, Thymus vulgaris; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Antifouling agents (tin-contg. acrylic polymer contg.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Acrylic polymers Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (tin-contg.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Naphthenic acids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (tributyltin salts; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Carcinoma (uterine endometrial adenocarcinoma; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (vegetable, hydrogenated; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological

study), USES (Uses) (vegetable, methylated; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (vegetable; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Alkaloids Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (vinca; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Juglans regia (walnut flour; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Dyes (water-sol.; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Glycerides Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (wheat germ-oil; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Fats and Glyceridic oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (wheat germ; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Essential oils Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (wintergreen; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); Creosote (wood; methods and compns. for increasing efficacy of biol. active ingredients such as antit
CAS Registry Numbers: 92-52-4D (1,1'-Biphenyl) Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Aroclor; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); 125695-78-5 Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Isomate LBAM; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); 106998-35-0 Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Isomate OFM; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); 11104-05-5 Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Luretape; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); 9003-28-5 Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Polyvis O-SH; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); 60568-05-0 Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (Xyligen B; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); 9000-69-5 (Pectin) Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (citrus; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); 7631-86-9 (Silica) Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (cryst.-fused; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); 64529-56-2 Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (ebuzin,tycor; methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); 9001-77-8D Role: BSU (Biological study, unclassified), BIOL (Biological study) (methods and compns. for increasing efficacy of biol. active ingredients such as antitumor agents); 50-00-0 (Formaldehyde);
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2002-418803
Priority Application Date: 20021016 The invention provides methods and compns. for modulating the sensitivity of cells to cytotoxic compds. and other active agents. In accordance with the invention, compns. are provided comprising combinations of ectophosphatase inhibitors and active agents. Active agents include antibiotics, fungicides, herbicides, insecticides, chemotherapeutic agents, and plant growth regulators. By increasing the efficacy of active agents, the invention allows use of compns. with lowered concns. of active ingredients. [on SciFinder (R)]
C12N. antibiotic/ fungicide/ herbicide/ insecticide/ plant/ growth/ regulator/ combination/ antitumor

1389. Wing, K. D., Glickman, A. H., and Casida, J. E. (1984). Phosphorothiolate Pesticides and Related

Compounds: Oxidative Bioactivation and Aging of the Inhibited Acetylcholinesterase. *Pestic biochem physiol* 21: 22-30.
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ABSTRACT: HEEP COPYRIGHT: BIOL ABS. Several phosphorothiolates with a C2 to C6 S-alkyl substituent (i.e., ethyl, n-propyl, isopropyl, n-butyl, t-butyl, n-pentyl, or cyclohexyl) undergo microsomal oxidase activation to more potent acetylcholinesterase (AChE) inhibitors. Profenofos is activated by both mouse liver and house fly abdomen microsomes. The phosphorothiolates examined having S-methyl, S-benyzl, S-phenyl and a variety of other thiol substituents and the phosphoramidothiolates were not converted to more potent AChE inhibitors. The microsomal oxidase system cleaves (|)-profenofos predominantly at the P-S-propyl linkage probably via initial sulfoxidation. (-)-Profenofos and O,S-diethyl O-phenyl phosphorothioate undergo in vivo oxidative activation as evidenced by lessened chick brain AChE inhibition after pretreatment with piperonyl butoxide. AChE inhibited in vitro by several bioactivated phoshporothiolates quickly becomes refractory to oxime reactivation, i.e., it undergoes aging. The toxicological properties of some S-propyl S-butyl, and related phosphorothiolates are determined in part by their bioactivation and AChE-aging reactions.
LANGUAGE: eng

1390. Wisniewska, J. and Prokopy, R. J. (1997). Pesticide Effect on Faunal Composition, Abundance, and Body Length of Spiders (Araneae) in Apple Orchards. *Environ.Entomol.* 26: 763-776.
Chem Codes: Chemical of Concern: SZ,Captan,PSM,FRM,GYP Rejection Code: MIXTURE/NO CONC.

1391. Wittmann, C., Riedel, K., and Schmid, R. D. (1997). Microbial and Enzyme Sensors for Environmental Monitoring. *Kress-rogers, e. (Ed.). Handbook of biosensors and electronic noses: medicine, food, and the environment. Xxi+695p. Crc press, inc.: Boca raton, florida, usa* London, england, uk. Isbn 0-8493-8905-4.; 0: 299-332.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM BOOK CHAPTER LITERATURE REVIEW MICROBIAL SENSOR ENZYME SENSOR ENVIRONMENTAL MONITORING TOXIC SUBSTANCES ANALYSIS POLLUTANTS METHODOLOGY ENVIRONMENTAL SCIENCES ANALYTICAL METHOD INSTRUMENT MH - ECOLOGY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: BIOMEDICAL ENGINEERING
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: ENGINEERING
MESH HEADINGS: ENZYMES/ANALYSIS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: BIOLOGICAL ASSAY
MESH HEADINGS: FERMENTATION
MESH HEADINGS: INDUSTRIAL MICROBIOLOGY
KEYWORDS: Methods
KEYWORDS: Ecology
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Biophysics-Bioengineering
KEYWORDS: Enzymes-Methods
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Food and Industrial Microbiology-Biosynthesis
LANGUAGE: eng

1392. Wiwanitkit, V., Suwansaksri, J., and Nasuan, P. (Feasibility of Urinary Trans, Trans-Muconic Acid Determination Using High Performance Liquid Chromatography for Biological Monitoring of Benzene Exposure. *J med assoc thai. 2001, jun; 84 suppl 1:s263-8. [Journal of the medical association of thailand = chotmaihet thangphaet]: J Med Assoc Thai*.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: Benzene is an important carcinogenic substance used in many industrial processes. Inhalation of this substance can cause both acute and chronic toxicity. In this study, monitoring of benzene exposure by high-performance liquid chromatography (HPLC) for urine trans, trans-muconic acid (ttMA) determination was adapted. We described a new adapted sensitive and specific HPLC method. We mixed 0.5 mL of urine sample with 2 mL of Tris Buffer containing vanillic acid as internal standard (IS) and percolate this through a preconditioned ion-exchange column. After rinsing the column with phosphoric acid solution, acetate buffer, and deionized water, we eluated the analytes with 2 mL of an equivolume solution of 1.5 mol/L sodium chloride and methanol. Of this, 10 microliter was injected into the HPLC column. The mobile phase consisted of, per liter, 10 ml of acetic acid, 100 ml of methanol, and 5 mmol/L sodium acetate. The flow rate was started at 1.2 ml/min. The ttMA and IS were detected at 4.2 to 4.4 and 12.6-13.3 minutes, respectively. The lowest detection limit was 0.05 mg/L.
MESH HEADINGS: Benzene/adverse effects/*metabolism
MESH HEADINGS: Chromatography, High Pressure Liquid/*methods
MESH HEADINGS: Environmental Monitoring/*methods
MESH HEADINGS: Feasibility Studies
MESH HEADINGS: Humans
MESH HEADINGS: Occupational Exposure/*analysis
MESH HEADINGS: Reference Values
MESH HEADINGS: Sensitivity and Specificity
MESH HEADINGS: Sorbic Acid/*analogs &amp
MESH HEADINGS: derivatives/*analysis
MESH HEADINGS: Urine/*chemistry
LANGUAGE: eng

1393. Wolfberg, A., Kahanovich, Y., Avron, M., and Nissenbaum, A. (1980). Movement of heavy metals into a shallow aquifer by leakage from sewage oxidation ponds. *Water Research* 14: 675-679.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

The concentrations of Mn, Ni, Cu, Cd and Cr were measured in a shallow perched groundwater aquifer which underlies the Dan Region Sewage Reclamation Project (Israel). The contribution of effluents to the groundwaters has been evaluated on the basis of chloride concentration. Groundwater which are estimated to contain more than 60% effluents showed a hundred-fold decrease in Cu and Mn at a distance of 650 m away from the ponds, as compared with the near ponds samples. Ni and Cd showed only a small decrease in concentration over a distance of 150 m, and then stayed constant. The concentrations of Cu and particularly of Mn in the groundwaters near the oxidation ponds is equivalent to or greater than in the ponds themselves. It is suggested that Cu and Mn are mobilized from the precipitated sludge into the interstitial waters. They percolate into the groundwater near the ponds and then are precipitated by increasing aeration during the movement of the water away from the pond area. Cd and Ni form stable soluble organic chelates which are only slightly removed by interaction with the sandy soil of the aquifer.
http://www.sciencedirect.com/science/article/B6V73-48BDS2G-102/2/e864b9573ef9002bd1405972fb8471fe

1394. Wolfe, N. L., Mingelgrin, U., and Miller, G. C. (1990). Abiotic Transformations in Water Sediments and Soil. *Cheng, h. H. (Ed.). Sssa (soil science society of america) book series, no. 2. Pesticides in the soil environment: processes, impacts, and modeling. Xxiii+530p. Soil science society of america, inc.: Madison, wisconsin, usa. Illus. Isbn 0-89118-791-x.* 0: 103-168.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM PESTICIDES LEACHING POLLUTION TOXICITY PH LIGHT CARRIERS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: DARKNESS
MESH HEADINGS: LIGHT
MESH HEADINGS: LIGHTING
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: SOIL
MESH HEADINGS: FERTILIZERS
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: Biochemical Studies-General
KEYWORDS: External Effects-Light and Darkness
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-Physics and Chemistry (1970-)
KEYWORDS: Soil Science-Fertility and Applied Studies (1970-)
KEYWORDS: Pest Control
LANGUAGE: eng

1395. Wong, J. W. and Halverson, C. A (1999). Multiresidue analysis of pesticides in wines using C-18 solid-phase extraction and gas chromatography-mass spectrometry. *American Journal of Enology and Viticulture* 50: 435-442.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2000:90271
Chemical Abstracts Number: CAN 133:16473
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry; Mass spectrometry (gas chromatog. combined with; multiresidue anal. of pesticides in wines using C-18 solid-phase extn. and gas chromatog.-mass spectrometry); Gas chromatography; Gas chromatography (mass spectrometry combined with; multiresidue anal. of pesticides in wines using C-18 solid-phase extn. and gas chromatog.-mass spectrometry); Food contamination; Pesticides; Wine analysis (multiresidue anal. of pesticides in wines using C-18 solid-phase extn. and gas chromatog.-mass spectrometry); Extraction (solid-phase; multiresidue anal. of pesticides in wines using C-18 solid-phase extn. and gas chromatog.-mass spectrometry)
CAS Registry Numbers: 50-29-3; 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 78-34-2 (Dioxathion); 86-50-0 (Azinphos-methyl); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 121-75-5 (Malathion); 122-34-9 (Simazine); 133-06-2 (Captan); 133-07-3 (Folpet); 298-01-1 (cis-Mevinphos); 298-03-3 (Demeton-O); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 338-45-4 (trans-Mevinphos); 563-12-2 (Ethion); 584-79-2 (Allethrin); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 919-86-8 (Demeton-S-methyl); 950-37-8 (Methidathion); 959-98-8; 1194-65-6 (Dichlobenil); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 2104-64-5 (EPN); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2921-88-2 (Chlorpyrifos); 4726-14-1 (Nitralin); 22224-92-6 (Fenamiphos); 23950-58-5 (Propyzamide);

27314-13-2 (Norflurazon); 32809-16-8 (Procymidone); 33213-65-9; 36734-19-7 (Iprodione); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 60168-88-9 (Fenarimol); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 68359-37-5 (Cyfluthrin); 88671-89-0 (Myclobutanil) Role: ANT (Analyte), ANST (Analytical study) (multiresidue anal. of pesticides in wines using C-18 solid-phase extn. and gas chromatog.-mass spectrometry)
Citations: 1) Bernal, J; J Chromatagr A 1997, 778, 111
Citations: 2) Cabras, P; J Agric Food Chem 1997, 45, 2708
Citations: 3) Cabras, P; J Assoc Off Anal Chem Inter 1997, 80, 867
Citations: 4) Cabras, P; J Agric Food Chem 1997, 45, 2248
Citations: 5) Cabras, P; J Agric Food Chem 1997, 45, 476
Citations: 6) Cabras, P; Ital J Food Sci 1995, 2, 133
Citations: 7) Cabras, P; J Agric Food Chem 1995, 43, 2613
Citations: 8) Cabras, P; Rev Environ Contam Tox 1987, 99, 83
Citations: 9) Cabras, P; J Agric Food Chem 1992, 40, 817
Citations: 10) Erney, D; J Chrom 1993, 638, 57
Citations: 11) Fillion, J; J Am Assoc Anal Chem Inter 1995, 78, 1252
Citations: 12) Garcia-Repetto, R; J Am Assoc Anal Chem Inter 1996, 79, 1423
Citations: 13) Holland, P; J Am Assoc Anal Chem Inter 1994, 77, 79
Citations: 14) Hopper, M; J Am Assoc Anal Chem Inter 1988, 71, 731
Citations: 15) Kaufmann, A; J Am Assoc Anal Chem Inter 1997, 80, 1302
Citations: 16) Leggett, D; Anal Chem 1990, 62, 1355
Citations: 17) Long, F; Chem Rev 1952, 51, 119
Citations: 18) Matisov, E; J Chromatagr A 1996, 754, 445
Citations: 19) Anon; no publication given 1994
Citations: 20) Sala, C; Chromatographia 1997, 44, 320 Procedures to analyze pesticides in wines were developed and evaluated. Wine samples were applied to solid phase extn. cartridges (C-18, octadecyl), and pesticides were eluted with Et acetate. The reduced solvent exts. were subsequently screened and analyzed by gas chromatog.-mass spectrometry using full scan or selected ion monitoring. Target and qualifier ions and retention times were used to screen, confirm, and det. recoveries of 48 common pesticides. Various parameters including pesticide spike concns., wine type (red and white), and salt addn. prior to extn. were compared and evaluated for highest extn. efficiencies and optimal sensitivity in spiked wine samples. Suitable recoveries to most pesticides at the 0.01 and 0.10 mg/L fortifications were obtained by adding sodium chloride prior to extn. and Et acetate elution. These findings confirm that this is a fast and effective method for identifying several types of pesticides in wines. [on SciFinder (R)] 0002-9254 pesticide/ residue/ wine/ analysis

1396. Wong, Jon W., Hennessy, Michael K., Hayward, Douglas G., Krynitsky, Alexander J., Cassias, Irene, and Schenck, Frank J (2007). Analysis of Organophosphorus Pesticides in Dried Ground Ginseng Root by Capillary Gas Chromatography-Mass Spectrometry and -Flame Photometric Detection. *Journal of Agricultural and Food Chemistry* 55: 1117-1128.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2007:82175
Chemical Abstracts Number: CAN 146:378387
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Food analysis; Food contamination; Panax ginseng; Panax quinquefolium (anal. of organophosphorus pesticides in dried ground ginseng root by capillary GC-MS and GC-flame photometric detection); Electron ionization mass spectrometry (capillary gas chromatog.

combined with; anal. of organophosphorus pesticides in dried ground ginseng root by capillary GC-MS and GC-flame photometric detection); Capillary gas chromatography (electron ionization mass spectrometry combined with; anal. of organophosphorus pesticides in dried ground ginseng root by capillary GC-MS and GC-flame photometric detection); Capillary gas chromatography (flame photometric detection combined with; anal. of organophosphorus pesticides in dried ground ginseng root by capillary GC-MS and GC-flame photometric detection); Pesticides (organophosphorus; anal. of organophosphorus pesticides in dried ground ginseng root by capillary GC-MS and GC-flame photometric detection)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 52-85-7 (Famphur); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 78-34-2 (Dioxathion); 78-48-8 (DEF); 86-50-0 (Azinphos-methyl); 97-17-6; 115-86-6 (Triphenyl phosphate); 115-90-2 (Fensulfothion); 119-12-0 (Pyridaphenthion); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 126-73-8 (Tributyl phosphate); 126-75-0 (Demeton-S); 141-66-2 (Dicrotophos); 297-97-2 (Zinophos); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 299-84-3 (Fenchlorphos); 300-76-5 (Naled); 311-45-5 (Paraoxon); 321-54-0 (Coumaphos oxon); 333-41-5 (Diazinon); 563-12-2 (Ethion); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 919-86-8 (Demeton-S-methyl); 944-22-9 (Fonophos); 950-35-6; 950-37-8 (Methidathion); 961-22-8 (Azinphos-methyl-oxon); 962-58-3 (Diazinon oxon); 1113-02-6 (Omethoate); 1517-22-2; 1634-78-2 (Malaoxon); 1719-03-5 (Chrysene-d12); 1754-58-1 (Diamidafos); 1757-18-2 (Akton); 2104-64-5 (EPN); 2104-96-3 (Bromophos); 2275-23-2 (Vamidothion); 2310-17-0 (Phosalone); 2463-84-5 (Dicapthon); 2496-91-5; 2588-03-6 (Phorate sulfoxide); 2588-04-7 (Phorate sulfone); 2600-69-3 (Phorate oxon); 2636-26-2 (Cyanofos); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 3761-41-9 (Fenthion sulfoxide); 3761-42-0 (Fenthion sulfone); 3811-49-2 (Dioxabenzofos); 4824-78-6 (Bromophos-ethyl); 5131-24-8 (Ditalimfos); 5286-73-7; 5598-13-0 (Chlorpyrifos-methyl); 5598-15-2 (Chlorpyrifos oxon); 6552-12-1 (Fenthion oxon); 6923-22-4 (Monocrotophos); 7173-84-4 (Carbophenothion oxon); 7700-17-6 (Crotoxyphos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10311-84-9 (Dialifor); 13071-79-9 (Terbufos); 13194-48-4 (Ethoprop); 13457-18-6 (Pyrazophos); 13593-03-8 (Quinalphos); 15067-26-2; 17109-49-8 (Edifenphos); 17356-42-2 (Ethion monoxon); 18181-70-9 (Iodofenphos); 18708-87-7 (Chlorfenvinphos, b-); 21609-90-5 (Leptophos); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 22756-17-8 (Ethion dioxon); 23560-59-0 (Heptenophos); 24017-47-8 (Triazophos); 25006-32-0 (Leptophos oxon); 25311-71-1 (Isofenphos); 26087-47-8 (Iprobenfos); 29232-93-7 (Pirimiphos-methyl); 29820-16-4; 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 31972-43-7 (Fenamiphos sulfoxide); 31972-44-8 (Fenamiphos sulfone); 34643-46-4 (Prothiophos); 35400-43-2 (Sulprofos); 38260-54-7 (Etrimfos); 41198-08-7 (Profenofos); 42509-80-8 (Isazophos); 56070-14-5 (Terbufos oxon); 56070-15-6 (Terbufos oxon sulfone); 56070-16-7 (Terbufos sulfone); 57018-04-9 (Tolclofos-methyl); 60238-56-4 (Chlorthiophos); 86762-27-8; 89784-60-1 (Pyraclofos); 95465-99-9 (Cadusafos); 96182-53-5 (Tebupirimphos); 98886-44-3 (Fosthiazate) Role: ANT (Analyte), OCU (Occurrence, unclassified), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (anal. of organophosphorus pesticides in dried ground ginseng root by capillary GC-MS and GC-flame photometric detection)
Citations: 1) Huggett, D; Hum Ecol Risk Assessment 2000, 6, 767
Citations: 2) Huggett, D; Bull Environ Contam Toxicol 2001, 66, 150
Citations: 3) Khan, I; J AOAC Int 2001, 84, 936
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Citations: 5) Durgnat, J; Food Addit Contam 2005, 22(12), 1224
Citations: 6) Leung, K; Phytother Res 2005, 19, 514
Citations: 7) Bicchi, C; J Agric Food Chem 2003, 51, 27
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Citations: 9) Molto, J; Int J Environ Anal Chem 1994, 54, 81
Citations: 10) Srivastava, L; Bull Environ Contam Toxicol 2001, 67, 856
Citations: 11) Srivastava, L; Bull Environ Contam Toxicol 2000, 64, 502
Citations: 12) Leung, K; Phytother Res 2005, 19, 514
Citations: 13) Hajou, R; Pharm Biol 2005, 43(6), 554

Citations: 14) Zuin, V; Phytother Res 2000, 14, 73
Citations: 15) US Food and Drug Administration; Pesticide Analytical Manual, 3rd ed 1999, 1
Citations: 16) Fillion, J; J AOC Int 1995, 78, 1252
Citations: 17) Fillion, J; J AOAC Int 2000, 83, 698
Citations: 18) Anastassiades, M; J AOAC Int 2003, 86, 412
Citations: 19) Skoog, D; Fundamentals of Analytical Chemistry, 7th ed 1996, 572
Citations: 20) Lehotay, S; J AOAC Int 2005, 88(2), 595
Citations: 21) Verga, G; J High Resolut Chromatogr 1992, 15(4), 235
Citations: 22) Mastovska, K; Anal Chem 2005, 77, 8129
Citations: 23) Erney, D; J Chromatogr 1993, 638, 57
Citations: 24) Schenck, F; J Chromatogr A 2000, 868, 51
Citations: 25) Kirchner, M; J Chromatogr A 2005, 1084, 63 A method was developed to det. organophosphorus pesticides (OPs) in dried ground ginseng root. Pesticides were extd. from the sample using acetonitrile/water satd. with salts, followed by solid-phase dispersive cleanup, and analyzed by capillary gas chromatog. with electron ionization mass spectrometry in selective ion monitoring mode (GC-MS/SIM) and flame photometric detection (GC-FPD) in phosphorus mode. The detection limits for most of the pesticides were 0.025-0.05 mg/g using GC-FPD but were analyte-dependent for GC-MS/SIM, ranging from 0.005 to 0.50 mg/g. Quantitation was detd. from 0.050 to 5.0 mg/g with r2 > 0.99 for a majority of the pesticides using both detectors. Recovery studies were performed by fortifying the dried ground ginseng root samples to concns. of 0.025, 0.1, and 1.0 mg/g, resulting in recoveries of >90% for most pesticides by GC-FPD. Lower (<70%) and higher (>120%) recoveries were most likely from complications of pesticide lability or volatility, matrix interference, or inefficient desorption from the solid-phase sorbents. There was difficulty in analyzing the ginseng samples for the OPs using GC-MS at the lower fortification levels for some of the OPs due to lack of confirmation. GC-FPD and GC-MS/SIM complement each other in detecting the OPs in dried ground ginseng root samples. This procedure was shown to be effective and was applied to the anal. of OPs in ginseng root samples. One particular sample, a ground and dried American ginseng (Panax quinquefolius) root sample, was found to contain diazinon quantified at approx. 25 mg/kg by external calibration using matrix-matched stds. or std. addn. using both detectors. The advantage of using both detectors is that confirmation can be achieved using GC-MS, whereas the use of a megabore column in GC-FPD can be used to quantitate some of the nonpolar OPs without the use of matrix-matched stds. or std. addn. [on SciFinder (R)] 0021-8561 Panax/ root/ organophosphorus/ pesticide/ detn/ capillary/ GC/ MS/ FPD

1397. Wong, Jon W., Webster, Michael G., Bezabeh, Dawit Z., Hengel, Mathew J., Ngim, Kenley K. , Krynitsky, Alexander J., and Ebeler, Susan E (2004). Multiresidue Determination of Pesticides in Malt Beverages by Capillary Gas Chromatography with Mass Spectrometry and Selected Ion Monitoring. *Journal of Agricultural and Food Chemistry* 52: 6361-6372.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:761148
Chemical Abstracts Number: CAN 141:409981
Section Code: 17-1
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Mass spectrometry (capillary gas chromatog. combined with; detn. of pesticides in malt beverages by capillary GC-MS with selected ion monitoring); Beer (carbaryl and dimethomorph of); Food contamination (carbaryl and dimethomorph of beer); Beer analysis (detn. of pesticides in malt beverages by capillary GC-MS with selected ion monitoring); Capillary gas chromatography (mass spectrometry combined with; detn. of pesticides in malt beverages by capillary GC-MS with selected ion monitoring); Pesticides (organochlorine; detn.

of pesticides in malt beverages by capillary GC-MS with selected ion monitoring); Pesticides (organonitrogen; detn. of pesticides in malt beverages by capillary GC-MS with selected ion monitoring); Pesticides (organophosphorus; detn. of pesticides in malt beverages by capillary GC-MS with selected ion monitoring); Pyrethrins Role: ANT (Analyte), ANST (Analytical study) (pyrethroids; detn. of pesticides in malt beverages by capillary GC-MS with selected ion monitoring); Extraction (solid-phase; detn. of pesticides in malt beverages by capillary GC-MS with selected ion monitoring)
CAS Registry Numbers: 50-29-3; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 80-38-6 (Fenson); 86-50-0 (Azinphos-methyl); 90-98-2 (4,4'-Dichlorobenzophenone); 99-30-9 (Dicloran); 103-17-3 (Chlorbenside); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 126-75-0 (Demeton-S); 133-06-2 (Captan); 133-07-3 (Folpet); 139-40-2 (Propazine); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 319-84-6 (a-BHC); 319-86-8 (d-BHC); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 584-79-2 (Allethrin); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 786-19-6 (Carbophenothion); 789-02-6; 886-50-0 (Terbutryn); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 959-98-8 (Endosulfan-a); 1014-69-3 (Desmetryn); 1024-57-3 (Heptachlor epoxide); 1085-98-9 (Dichlofluanid); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1634-78-2 (Malaoxon); 1836-75-5 (Nitrophen); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 4726-14-1 (Nitralin); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5598-13-0 (Chlorpyrifos-methyl); 5915-41-3 (Terbuthylazine); 7287-19-6 (Prometryn); 7421-93-4 (Endrin aldehyde); 10311-84-9 (Dialifos); 10552-74-6 (Nitrothal-isopropyl); 13071-79-9 (Terbufos); 15299-99-7 (Napropamide); 15972-60-8 (Alachlor); 19666-30-9 (Oxadiazon); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23950-58-5 (Propyzamide); 27314-13-2 (Norflurazon); 31218-83-4 (Propetamphos); 32809-16-8 (Procymidone); 33213-65-9 (Endosulfan-b); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenophos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51630-58-1 (Fenvalerate); 52315-07-8 (Cypermethrin); 53112-28-0 (Pyrimethanil); 53494-70-5 (Endrin ketone); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 60207-90-1 (Propiconazole); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 66246-88-6 (Penconazole); 67564-91-4 (Fenpropimorph); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 68694-11-1 (Triflumizole); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 76738-62-0 (Paclobutrazol); 77732-09-3 (Oxadixyl); 79983-71-4 (Hexaconazole); 83657-22-1 (Uniconazole); 84332-86-5 (Chlozolinate); 88671-89-0 (Myclobutanil); 94361-06-5 (Cyproconazole); 96489-71-3 (Pyridaben); 102851-06-9 (Fluvalinate t); 107534-96-3 (Tebuconazole); 114369-43-6 (Fenbuconazole); 121552-61-2 (Cyprodinil); 131341-86-1 (Fludioxonil); 131860-33-8 (Azoxystrobin) Role: ANT (Analyte), ANST (Analytical study) (detn. of pesticides in malt beverages by capillary GC-MS with selected ion monitoring); 63-25-2 (Carbaryl); 110488-70-5 (Dimethomorph) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (detn. of pesticides in malt beverages by capillary GC-MS with selected ion monitoring)
Citations: 1) Andrey, D; Mitt Lebensmittelunters Hyg 2000, 91, 300
Citations: 2) Hack, M; J Agric Food Chem 1997, 45, 1375
Citations: 3) Hengel, M; J Agric Food Chem 2002, 50, 3412
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Citations: 14) Fillion, J; J AOAC Int 2000, 83, 698
Citations: 15) Anastassiades, M; J AOAC Int 2003, 86, 412
Citations: 16) Erney, D; J Chromatogr 1993, 638, 57
Citations: 17) Erney, D; J High Resolut Chromatogr 1993, 16, 501
Citations: 18) Erney, D; J High Resolut Chromatogr 1997, 20, 375
Citations: 19) Hajslova, J; J Chromatogr A 1998, 800, 283
Citations: 20) Menkissoglu-Spiroudi, U; Int J Environ Anal Chem 2004, 84, 15
Citations: 21) Schenck, F; J Chromatogr A 2000, 868, 51
Citations: 22) Hengel, M; J Agric Food Chem 2000, 48, 5824
Citations: 23) Stout, S; J AOAC Int 1998, 81, 1054
Citations: 24) Protection Of The Environment; http://www.epa.gov/pesticides/food/viewtols.htm 2003
Citations: 25) Anon; http://europa.eu.int/comm/food/fs/ph_ps/pest/mrl_pesticides_11-03.xls
Citations: 26) Tomlin, C; The Pesticide Manual, 11th ed 1997
Citations: 27) Soriano, J; Critical Rev Anal Chem 2001, 31, 19
Citations: 28) Wang, N; Anal Chem 2001, 73, 997
Citations: 29) Yu, K; Anal Chem 2003, 75, 4103
Citations: 30) Fernandez, M; J Chromatogr A 2000, 871, 43
Citations: 31) Thurman, E; Anal Chem 2001, 73, 5441 A method was developed to det. pesticides in malt beverages using solid phase extn. on a polymeric cartridge and sample cleanup with a MgSO4-topped aminopropyl cartridge, followed by capillary gas chromatog. with electron impact mass spectrometry in the selected ion monitoring mode [GC-MS(SIM)]. Three GC injections were required to analyze and identify organophosphate, organohalogen, and organonitrogen pesticides. The pesticides were identified by the retention times of peaks of the target ion and qualifier-to-target ion ratios. GC detection limits for most of the pesticides were 5-10 ng/mL, and linearity was detd. from 50 to 5000 ng/mL. Fortification studies were performed at 10 ng/mL for three malt beverages that differ in properties such as alc. content, solids, and appearance. The recoveries from the three malt beverages were greater than 70% for 85 of the 142 pesticides (including isomers) studied. The data showed that the different malt beverage matrixes had no significant effect on the recoveries. This method was then applied to the screening and anal. of malt beverages for pesticides, resulting in the detection of the insecticide carbaryl and the fungicide dimethomorph in real samples. The study indicates that pesticide levels in malt beverages are significantly lower than the tolerance levels set by the United States Environmental Protection Agency for malt beverage starting ingredients. The use of the extn./cleanup procedure and anal. by GC-MS(SIM) proved effective in screening malt beverages for a wide variety of pesticides. [on SciFinder (R)] 0021-8561 pesticide/ detn/ malt/ beverage/ GC/ MS

1398. Wong, Jon W., Webster, Michael G., Halverson, Catherine A., Hengel, Mathew J., Ngim, Kenley K., and Ebeler, Susan E (2003). Multiresidue Pesticide Analysis in Wines by Solid-Phase Extraction and Capillary Gas Chromatography-Mass Spectrometric Detection with Selective Ion Monitoring. *Journal of Agricultural and Food Chemistry* 51: 1148-1161.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:49670
Chemical Abstracts Number: CAN 138:237066
Section Code: 17-1
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.

Index Terms: Mass spectrometry (gas chromatog. combined with, capillary; multiresidue pesticide anal. in wines by solid-phase extn. and capillary GC MS detection with selective ion monitoring); Gas chromatography (mass spectrometry combined with, capillary; multiresidue pesticide anal. in wines by solid-phase extn. and capillary GC MS detection with selective ion monitoring); Wine analysis (multiresidue pesticide anal. in wines by solid-phase extn. and capillary GC MS detection with selective ion monitoring); Food contamination (multiresidue pesticide anal. in wines by solid-phase extn. and capillary GC MS detection with selective ion monitoring in relation to); Pesticides (organohalogen; multiresidue pesticide anal. in wines by solid-phase extn. and capillary GC-MS detection with selective ion monitoring); Pesticides (organonitrogen; multiresidue pesticide anal. in wines by solid-phase extn. and capillary GC-MS detection with selective ion monitoring); Pesticides (organophosphates; multiresidue pesticide anal. in wines by solid-phase extn. and capillary GC-MS detection with selective ion monitoring); Pesticides (organosulfur; multiresidue pesticide anal. in wines by solid-phase extn. and capillary GC MS detection with selective ion monitoring); Extraction (solid-phase; multiresidue pesticide anal. in wines by solid-phase extn. and capillary GC MS detection with selective ion monitoring)
CAS Registry Numbers: 50-29-3; 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 72-20-8 (Endrin); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 78-34-2 (Dioxathion); 80-38-6 (Fenson); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 88-85-7 (Dinoseb); 90-98-2 (4,4'-Dichlorobenzophenone); 99-30-9 (Dicloran); 103-17-3 (Chlorbenside); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 122-34-9 (Simazine); 126-75-0 (Demeton-S); 133-06-2 (Captan); 133-07-3 (Folpet); 139-40-2 (Propazine); 141-66-2 (Dicrotophos); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 298-03-3 (Demeton-O); 298-04-4 (Disulfoton); 300-76-5 (Naled); 309-00-2 (Aldrin); 311-45-5 (Paraoxon); 319-84-6 (a-BHC); 319-85-7 (b-BHC); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 584-79-2 (Allethrin); 640-15-3 (Thiometon); 731-27-1 (Tolylfluanid); 732-11-6 (Phosmet); 759-94-4 (Eptam); 786-19-6 (Carbophenothion); 789-02-6; 886-50-0; 944-22-9 (Fonofos); 950-37-8 (Methidathion); 959-98-8 (Endosulfan-a); 1014-69-3 (Desmetryne); 1024-57-3 (Heptachlor epoxide); 1085-98-9 (Dichlofluanid); 1113-02-6 (Omethoate); 1194-65-6 (Dichlobenil); 1517-22-2 (Phenanthrene-d10); 1563-66-2 (Carbofuran); 1582-09-8 (Trifluralin); 1634-78-2 (Malaoxon); 1689-84-5 (Bromoxynil); 1719-03-5 (Chrysene-d12); 1836-75-5 (Nitrofen); 1861-40-1 (Benfluralin); 1897-45-6 (Chlorothalonil); 1912-24-9 (Atrazine); 2104-64-5 (EPN); 2104-96-3 (Bromophos-methyl); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2642-71-9 (Azinphos-ethyl); 2921-88-2 (Chlorpyrifos); 4726-14-1 (Nitralin); 4824-78-6 (Bromophos-ethyl); 5103-71-9 (cis-Chlordane); 5103-74-2 (trans-Chlordane); 5598-13-0 (Chlorpyrifos-methyl); 5915-41-3 (Terbutylazine); 6923-22-4 (Monocrotophos); 7287-19-6 (Prometryn); 7421-93-4 (Endrin aldehyde); 7786-34-7 (Mevinphos); 10311-84-9 (Dialifos); 10552-74-6 (Nitrothal-isopropyl); 13071-79-9 (Terbufos); 13593-03-8 (Quinalphos); 15299-99-7 (Napropamide); 15972-60-8 (Alachlor); 17708-57-5; 17708-58-6; 18181-80-1 (Bromopropylate); 19044-88-3 (Oryzalin); 19666-30-9 (Oxadiazon); 21725-46-2 (Cyanazine); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23950-58-5 (Propyzamide); 25311-71-1 (Isofenphos); 27314-13-2 (Norflurazon); 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 32809-16-8 (Procymidone); 33213-65-9; 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 39515-41-8 (Fenpropathrin); 41198-08-7 (Profenophos); 42874-03-3 (Oxyfluorfen); 43121-43-3 (Triadimefon); 50471-44-8 (Vinclozolin); 51218-45-2 (Metolachlor); 51235-04-2 (Hexazinone); 52315-07-8 (Cypermethrin); 52918-63-5 (Deltamethrin); 53112-28-0 (Pyrimethanil); 53494-70-5 (Endrin ketone); 55179-31-2 (Bitertanol); 55219-65-3 (Triadimenol); 55283-68-6 (Ethalfluralin); 57646-30-7 (Furalaxyl); 57837-19-1 (Metalaxyl); 60168-88-9 (Fenarimol); 61949-76-6 (cis-Permethrin); 61949-77-7 (trans-Permethrin); 66230-04-4; 66246-88-6 (Penconazole); 66267-77-4; 67564-91-4 (Fenpropimorph); 67747-09-5 (Prochloraz); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69409-94-5 (Fluvalinate); 70124-77-5 (Flucythrinate); 71626-11-4 (Benalaxyl); 77732-09-3 (Oxadixyl); 79983-71-4 (Hexaconazole); 84332-86-5 (Chlozolinate); 88671-89-0 (Myclobutanil); 93951-97-4 (Acenaphthylene-d8); 107534-96-3 (Tebuconazole); 121552-61-2 (Cyprodinil); 131341-86-1 (Fludioxonil) Role: ANT (Analyte), POL (Pollutant), ANST (Analytical study), OCCU (Occurrence) (multiresidue pesticide anal. in wines by solid-phase

extn. and capillary GC-MS detection with selective ion monitoring)
Citations: 1) Cabras, P; J Agric Food Chem 1995, 43, 2613
Citations: 2) Andrey, D; Mitt Lebensm Hyg 2000, 91, 300
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Citations: 6) Soleas, G; J Chromatogr A 2000, 882, 205
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Citations: 10) Miyake, Y; J Am Soc Brewing Chem 1999, 57(2), 46
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Citations: 15) Fillion, J; JAOAC Int 1995, 78(5), 1252
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Citations: 20) Hengel, M; J Agric Food Chem 2002, 50, 3412
Citations: 21) Tomlin, C; The Pesticide Manual, 11th ed 1997
Citations: 22) Sandra, P; J Chromatogr A 2001, 928, 117
Citations: 23) Soriano, J; Crit Rev Anal Chem 2001, 31(1), 19
Citations: 24) Tadeo, J; Food Analysis by HPLC, 2nd ed 2000, 693 A method was developed to det. pesticides in wines. The pesticides were extd. from the wine using solid-phase extn. on a polymeric cartridge, and the Co-extractives were removed with an aminopropyl-MgSO4 cartridge. Anal. was performed using capillary gas chromatog. with electron impact mass spectrometric detection in selective ion monitoring mode (GC-MSD/SIM). Three injections are required to analyze all 153 organohalogen, organonitrogen, organophosphate, and organosulfur pesticides and residues. Pesticides were confirmed by retention times of the target ions and 3 qualifier-to-target ion ratios. Detection limits for most of the pesticides were < 0.005 mg/L, and quantitation was detd. from .apprx. 0.01 to 5 mg/L. Spike recoveries were performed by fortifying red and white wines at 0.01 and 0.10 mg/L. At the 0.01 ppm level, the spike recoveries were > 70% for 116 and 124 pesticides (out of 153) in red and white wines, resp., whereas at the higher spike concn. of 0.10 mg/L, the recoveries were > 70% for 123 and 128 pesticides in red and white wines, resp. The recoveries of < 70% were most likely from pesticide polarity or lability, resulting in the inefficient adsorption of the pesticide to the polymeric sorbent, ineffective elution of the pesticide from the sorbent, or thermal degrdn. of the pesticide under GC-MSD conditions. [on SciFinder (R)] 0021-8561 pesticide/ residue/ detn/ wine/ extn/ GC/ MS

1399. Woo, Y. T. , Lai, D. Y., Argus, M. F., and Arcos, J. C. (1996). Carcinogenicity of Organophosphorus Pesticides-Compounds an Analysis of Their Structure-Activity Relationships. *Journal of environmental science and health part c environmental carcinogenesis & ecotoxicology reviews* 14: 1-42.
Chem Codes: Chemical of Concern: PSM Rejection Code: REVIEW.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM LITERATURE REVIEW HUMAN MOUSE RAT OSTEOSARCOMA PITUITARY TUMOR LUNG FORESTOMACH KIDNEY TUMORS LEUKEMIA
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: MINERALS
MESH HEADINGS: BIOPHYSICS

MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: DIGESTIVE SYSTEM DISEASES/PATHOLOGY
MESH HEADINGS: DIGESTIVE SYSTEM/PATHOLOGY
MESH HEADINGS: RESPIRATORY TRACT DISEASES/PHYSIOPATHOLOGY
MESH HEADINGS: PITUITARY GLAND
MESH HEADINGS: ADIPOSE TISSUE/PATHOLOGY
MESH HEADINGS: ADIPOSE TISSUE/PHYSIOPATHOLOGY
MESH HEADINGS: BONE DISEASES/PATHOLOGY
MESH HEADINGS: BONE DISEASES/PHYSIOPATHOLOGY
MESH HEADINGS: CONNECTIVE TISSUE DISEASES/PATHOLOGY
MESH HEADINGS: CONNECTIVE TISSUE DISEASES/PHYSIOPATHOLOGY
MESH HEADINGS: FASCIA/PATHOLOGY
MESH HEADINGS: FASCIA/PHYSIOPATHOLOGY
MESH HEADINGS: JOINT DISEASES/PATHOLOGY
MESH HEADINGS: JOINT DISEASES/PHYSIOPATHOLOGY
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: CARCINOGENS
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
MESH HEADINGS: MURIDAE
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Digestive System-Pathology
KEYWORDS: Respiratory System-Pathology
KEYWORDS: Endocrine System-Pituitary
KEYWORDS: Bones
KEYWORDS: Toxicology-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Neoplasms and Neoplastic Agents-Carcinogens and Carcinogenesis
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
KEYWORDS: Hominidae
KEYWORDS: Muridae
LANGUAGE: eng

1400. Wood, B. H., Wood, C. W., Yoo, K. H., Yoon, K. S., and Delaney, D. P. (1996). Nutrient Accumulation and Nitrate Leaching Under Broiler Litter Amended Corn Fields. *Communications in Soil Science and Plant Analysis, 27 (15-17) pp. 2875-2894, 1996.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ISSN: 0010-3624
Abstract: Alabama's broiler chicken (Gallus gallus) industry produces large amounts of waste, which are disposed of by application to crop and pasture land. Land application of litter (manure and bedding) from broiler production can lead to contamination from losses of nutrients accumulated in soil. A study was conducted on 2 and 4% slopes from 1991 to 1993 at Belle Mina,

Alabama, to determine the effects of broiler litter (BL) on soil elemental concentrations and nitrate leaching under a corn (Zea mays L.) - winter rye (Secale coreale L.) cropping system amended with either: 1) 9 mg midline dot ha superior - superior 1 of BL, 2) 18 mg midline dot ha superior - superior 1 of BL, or 3) commercial fertilizer (F) at a recommended rate. Soil was sampled to 100 cm prior to corn planting and subsequent to corn harvest. Soil leachate samples were collected biweekly with wick lysimeters installed at a depth of 100 cm. Litter applications increased concentrations of soil organic carbon (C), extractable phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), copper (Cu) and zinc (Zn). Post harvest soil sampling indicated leaching of soil nitrate that was generally highest under BL18. Soil electrical conductivity measurements were highest under BL18, but values were not in the range considered detrimental to crops. Nitrate-N (NO inferior 3-N) concentrations measured in soil percolate at 1-m depth on the 2% slope were higher under F than litter treatments. Both the F and BL18 treatments produced some NO inferior 3-N concentrations above the primary drinking water standard, but averaged only 8.3 and 4.8 mg midline dot L superior - superior 1, respectively. The BL9 treatment consistently remained under 10 mg NO inferior 3-N midline dot L superior - superior 1 with a mean concentration of 1.3 mg midline dot L superior - superior 1. Overall, litter applied a 9 mg midline dot ha superior - superior 1 produced agronomic results comparable to F and appeared to be the optimal rate of application under the conditions of this study.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.4.1 WATER AND NUTRIENTS: Nutrients
Classification: 92.13.1 ENVIRONMENTAL BIOLOGY: Ecology
Subfile: Plant Science

1401. Wright, A. Kent (1976). A study of rhodopsin-detergent micelles by transient electric birefringence. *Biophysical Chemistry* 4: 199-202.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

The hydrodynaimc method of transient electric birefringence has been used to study bovine rhodopsin solubilized in two detergents, 0.02% Ammonyx LO and 0.045% digitonin. All measurements are interpreted as the sum of two exponentials by which the relaxation times yield the rotary diffusion coefficients for ellipsoids of revolution. The semi-major and minor axes for prolate ellipsoid models have been calculated and their axial ratio, 6.8, in both detergents, is in line with recent reports on the structure of rhodopsin. Studies on bleached rhodopsin showed a large increase in axial ratio in 0.02% Ammonyx LO.
http://www.sciencedirect.com/science/article/B6TFB-44GPHHN-43/2/c6a7ab3ac3ea03921cf736a06f7c728e

1402. Wymore, T. , Gao, X. F., and Wong, T. C. (1999). Molecular dynamics simulation of the structure and dynamics of a dodecylphosphocholine micelle in aqueous solution. *Journal of Molecular Structure* 485-486: 195-210.
Chem Codes : Chemical of Concern: PSM Rejection Code: CHEM METHODS.

A molecular dynamics (MD) simulation study of a dodecylphosphocholine (DPC) micelle in water is presented. This system contains 60 DPC molecules in 5294 water molecules. The structure, shape, hydrocarbon chain fluidity, the hydration of the head group and the hydrocarbon chain, and the dynamics of the micelle were analyzed from the 1.2 ns constant pressure MD simulation. The micelle was found to be slightly prolate, with the ratio of the moments of inertia 1:24:1.11:1. The penetration of water into the interior of the micelle is limited. The interaction of water with the micelle mainly comes from the head group, and the modes of interaction with the positively charged choline group and the negatively charged phosphate group can be deciphered from the radial distribution functions between these groups and both the hydrogen and the oxygen atoms of water. From the ratio of the trans/gauche conformers on the hydrocarbon chain, and the density distribution of the various carbons with respect to the center of the mass of the micelle, the conformational properties of the hydrocarbon chains have been analyzed. The dynamics of the micelle was probed by the trans-gauche conformational transition rates and from the time correlation function of the C-H bonds. From the latter, the order parameters and the correlation times for the internal motions have been obtained. These parameters were found to be, for the most part, in excellent agreement with those obtained from NMR relaxation. Molecular dynamics/ Micelles/ Lipids/ Hydration/ Conformation http://www.sciencedirect.com/science/article/B6TGS-3X832RS-R/2/ec1ee3516cd1978a28180d4b5bc8188a

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Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1990:134228
Chemical Abstracts Number: CAN 112:134228
Section Code: 4-6
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Escherichia coli (chems. genotoxicity in, microtitration SOS Chromotest assay for); Pesticides (genotoxicity of, in Escherichia coli, microtitration SOS Chromotest assay for); Toxicity (geno-, of chems., microtitration SOS Chromotest assay for)
CAS Registry Numbers: 52-68-6 (Trichlorfon); 60-51-5 (Dimethoate); 63-25-2 (Carbaryl); 75-60-5 (Cacodylic acid); 88-85-7 (Dinoseb); 133-06-2 (Captan); 133-07-3 (Folpet); 330-55-2 (Linuron); 732-11-6 (Phosmet); 1836-75-5 (Nitrofen); 1912-24-9 (Atrazine); 1918-00-9 (Dicamba); 2425-06-1 (Captafol); 2921-88-2 (Chlorpyrifos); 5131-24-8 (Ditalimphos); 6923-22-4 (Monocrotophos); 14484-64-1 (Ferbam); 15972-60-8 (Alachlor); 21087-64-9; 21725-46-2 (Cyanazine); 25057-89-0 (Bentazon); 30560-19-1 (Acephate) Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (genotoxicity of, in Escherichia coli, microtitration SOS Chromotest assay for) Microtitration techniques were adapted to the SOS Chromotest to establish a simple and reliable modified genotoxicity test: the Microtitration SOS Chromotest. This test employs microtitration techniques and photometric anal. with numerical readout. These data are integrated into the computerized data processing program Statistical Anal. System to obtain genotoxicity and toxicity results of a chem. or chem. mixt. within 16 h. In order to test the applicability of the new system, the genotoxicity and toxicity of 22 pesticides were studied. A 2-sample t-test was employed to det. the level of significance. Nine of the pesticides were found to induce the SOS response in Escherichia coli cells. Their relative degrees of induction based on SOS inducing potency values are as follows: captafol < captan < folpet < dinoseb < ferbam < linuron < alachlor < phosmet < cacodylic acid. The addn. of rat liver S9 mix does not transform the nongenotoxic pesticides tested into genotoxic forms but significantly decreases the inducing ability of most pos. pesticides. The Microtitration SOS Chromotest is rapid and efficient in providing evidence for decision-making related to cleanup of chem. spills and discharges where time is a crit. factor. This method maintains its high accuracy and sensitivity compared with conventionally used assays. The studies of pesticide genotoxicity using this test confirm the applicability, reliability, and sensitivity of the Microtitration SOS Chromotest as a simple, efficient, and rapid genotoxicity prescreening system as well as an excellent research tool for genotoxic mechanism studies. [on SciFinder (R)] 0884-8181 genotoxicity/ assay/ SOS/ Chromotest

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Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))

Database: CAPLUS
Accession Number: AN 2004:373373
Chemical Abstracts Number: CAN 141:99005
Section Code: 1-3
Section Title: Pharmacology
CA Section Cross-References: 2
Document Type: Journal
Language: written in English.
Index Terms: Biological transport; Molecular modeling; Multidrug resistance; Pharmacophores; Simulation and Modeling (prediction of P-glycoprotein substrates by support vector machine approach); P-glycoproteins Role: BSU (Biological study, unclassified), BIOL (Biological study) (prediction of P-glycoprotein substrates by support vector machine approach)
CAS Registry Numbers: 50-02-2 (Dexamethasone); 50-06-6 (Phenobarbital); 50-07-7 (Mitomycin-C); 50-18-0 (Cyclophosphamide); 50-22-6 (Corticosterone); 50-23-7 (Hydrocortisone); 50-24-8 (Prednisolone); 50-27-1 (Estriol); 50-28-2 (Estradiol); 50-52-2 (Thioridazine); 50-53-3 (Chlorpromazine); 50-55-5 (Reserpine); 50-76-0 (Actinomycin D); 51-21-8 (Fluorouracil); 51-43-4 (Epinephrine); 52-39-1 (Aldosterone); 52-53-9 (Verapamil); 52-86-8 (Haloperidol); 53-79-2 (Puromycin); 56-54-2 (Quinidine); 57-22-7 (Vincristine); 57-27-2 (Morphine); 57-41-0 (Phenytoin); 57-83-0 (Progesterone); 58-32-2 (Dipyridamole); 58-39-9 (Perphenazine); 58-40-2 (Promazine); 58-89-9 (Lindane); 59-05-2 (Methotrexate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 64-85-7 (Deoxycorticosterone); 64-86-8 (Colchicine); 69-23-8 (Fluphenazine); 71-63-6 (Digitoxin); 72-43-5 (Methoxychlor); 72-57-1 (Trypan_blue); 76-99-3 (Methadone); 83-43-2 (Methylprednisolone); 83-60-3 (Reserpic_acid); 85-79-0 (Dibucaine); 114-07-8 (Erythromycin); 115-29-7 (Endosulfan); 116-06-3 (Aldicarb); 117-89-5 (Trifluoperazine); 120-58-1 (Isosafrole); 130-95-0 (Quinine); 135-67-1 (Phenoxazine); 143-62-4 (Digitoxigenin); 146-48-5 (Yohimbine); 146-54-3 (Triflupromazine); 147-94-4 (Cytarabine); 148-82-3 (Melphalan); 152-58-9 (Cortexolone); 154-93-8 (Carmustine); 305-03-3 (Chlorambucil); 481-49-2 (Cepharanthine); 483-18-1 (Emetine); 485-71-2 (Cinchonidine); 518-28-5 (Podophyllotoxin); 569-61-9 (Pararosaniline); 732-11-6 (Phosmet); 749-02-0 (Spiperone); 865-21-4 (Vinblastine); 1095-90-5 (Depridol); 1622-62-4 (Flunitrazepam); 1646-88-4 (Aldoxycarb); 1672-46-4 (Digoxigenin); 1912-24-9 (Atrazine); 1951-25-3 (Amiodarone); 2001-95-8 (Valinomycin); 2032-59-9 (Aminocarb); 2182-14-1 (Vindoline); 2385-85-5 (Mirex); 2485-62-3 (Cysteine methylester); 2901-66-8 (Methylreserpate); 3690-10-6 (NSC309132); 4375-07-9 (Epipodophyllotoxin); 4602-84-0 (Farnesol); 4685-14-7 (Paraquat); 5554-59-6 (NSC364080); 5602-68-6 (NSC49899); 7786-34-7 (Mevinphos); 10311-84-9 (Dialifos); 10540-29-1 (Tamoxifen); 13292-46-1 (Rifampicin); 15639-50-6 (Safingol); 16662-47-8 (Gallopamil); 17090-79-8 (Monensin); 18198-39-5 (Tetraphenylphosphonium); 18378-89-7 (Mithramycin); 19186-35-7 (Deoxypodophyllotoxin); 19216-56-9 (Prazosin); 20278-59-5 (NSC606532); 20290-10-2 (Morphine-6-glucuronide); 20830-75-5 (Digoxin); 20830-81-3 (Daunomycin); 21609-90-5 (Leptophos); 21829-25-4 (Nifedipine); 23214-92-8 (Doxorubicin); 23491-52-3 (HOE33342); 23593-75-1 (Clotrimazole); 25316-40-9 (Adriamycin); 25953-19-9 (Cefazolin); 26644-46-2 (Triforine); 28380-24-7 (Nigericin); 29767-20-2 (Teniposide); 33069-62-4 (Paclitaxel); 33419-42-0 (Etoposide); 37517-30-9 (Acebutolol); 42399-41-7 (Diltiazem); 50471-44-8 (Vinclozolin); 50679-08-8 (Terfenadine); 53123-88-9 (Rapamycin); 53179-11-6 (Loperamide); 53772-82-0 (Cis-Flupenthixol); 55985-32-5 (Nicardipine); 56420-45-2 (Epirubicin); 56980-93-9 (Celiprolol); 57808-66-9 (Domperidone); 58957-92-9 (Idarubicin); 59467-70-8 (Midazolam); 59865-13-3 (Cyclosporin A); 60207-90-1 (Propiconazole); 62893-19-0 (Cefoperazone); 62996-74-1 (Staurosporine); 65271-80-9 (Mitoxantrone); 66085-59-4 (Nimodipine); 66358-49-4 (NSC 314622); 67642-36-8 (NSC 268251); 69712-56-7 (Cefotetan); 69806-50-4 (Fluazifop-butyl); 70288-86-7 (Ivermectin); 73113-90-3 (Hydroxyrubicin); 75330-75-5 (Lovastatin); 75621-03-3 (Chaps); 75949-61-0 (Pafenolol); 78186-34-2 (Bisantrene); 83799-24-0 (Fexofenadine); 89778-26-7 (Toremifene); 90523-31-2 (Azidopine); 99614-02-5 (Ondansetron); 114798-26-4 (Losartan); 114977-28-5 (Docetaxel); 120054-86-6 (Dexniguldipine); 121263-19-2 (Calphostin C); 121584-18-7 (PSC833); 123948-87-8 (Topotecan); 126463-15-8 (NSC623083); 127779-20-8 (Saquinavir); 128666-81-9 (NSC686028); 131246-38-3 (NSC648403); 135812-04-3 (NSC 615985); 137694-16-7 (BIBW22); 140945-01-3 (S9788); 142716-85-6 (CP100356); 143664-11-3 (GF120918); 150378-17-9

(Indinavir); 152044-53-6 (Epothilone_a); 155213-67-5 (Ritonavir); 159875-50-0 (NSC667533); 159989-64-7 (Nelfinavir); 160450-56-6 (NSC667532); 161976-69-8 (NSC666331); 167465-36-3 (LY335979); 182198-53-4 (L767679); 191729-65-4 (NSC678047); 200340-45-0 (NSC676593); 208398-10-1 (NSC676610); 208398-12-3 (NSC676615); 208398-21-4 (NSC676618); 208398-22-5 (NSC676617); 208398-24-7 (NSC676616); 432550-02-2 (NSC617286); 432550-03-3 (NSC630148); 432550-04-4 (NSC630721); 432550-05-5 (NSC 633528); 432550-06-6 (NSC664565); 432550-08-8 (NSC668354); 432550-09-9 (NSC674508); 432550-10-2 (NSC 674570); 432550-22-6 (NSC630357); 432550-23-7 (NSC639677); 432550-24-8 (NSC653278); 432550-25-9 (NSC667551); 432550-26-0 (NSC667560); 432550-27-1 (NSC671400); 717849-72-4; 717849-74-6; 718637-11-7 (NSC 667558); 718637-12-8 (NSC 676602) Role: PAC (Pharmacological activity), THU (Therapeutic use), BIOL (Biological study), USES (Uses) (prediction of P-glycoprotein substrates by support vector machine approach)
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Citations: 51) Osterberg, T; Eur J Pharm Sci 2000, 10, 295
Citations: 52) Chapelle, O; Mach Learn 2002, 46, 131 P-glycoproteins (P-gp) actively transport a wide variety of chems. out of cells and function as drug efflux pumps that mediate multidrug resistance and limit the efficacy of many drugs. Methods for facilitating early elimination of potential P-gp substrates are useful for facilitating new drug discovery. A computational ensemble pharmacophore model has recently been used for the prediction of P-gp substrates with a promising accuracy of 63%. It is desirable to extend the prediction range beyond compds. covered by the known pharmacophore models. For such a purpose, a machine learning method, support vector machine (SVM), was explored for the prediction of P-gp substrates. A set of 201 chem. compds., including 116 substrates and 85 nonsubstrates of P-gp, was used to train and test a SVM classification system. This SVM system gave a prediction accuracy of at least 81.2% for P-gp substrates based on two different evaluation methods, which is substantially improved against that obtained from the multiple-pharmacophore model. The prediction accuracy for nonsubstrates of P-gp is 79.2% using 5-fold cross-validation. These accuracies are slightly better than those obtained from other statistical classification methods, including k-nearest neighbor (k-NN), probabilistic neural networks (PNN), and C4.5 decision tree, that use the same sets of data and mol. descriptors. The study indicates the potential of SVM in facilitating the prediction of P-gp substrates. [on SciFinder (R)] 0095-2338 P/ glycoprotein/ substrate/ drug/ design/ support/ vector/ machine

1405. Yakushko, V. E. and Zlatev, Z. D. (1975). Toxicity of Certain Acaricides and Changes in the Activity of Hepatic Microsomal Aminopyridine Demethylase During Combined and Separate Application. *Gig. Tr. Prof. Zabol.* 9: 55-57.
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The acute oral toxicity of binary mixtures of kelthane, milbex, and acrex with phthalophos, phosalone, dimethoate, and anthio, respectively, and the effect of milex, phosalone, and their combination on the hepatic microsomal aminopyridine demethylase activity were studied in albino mice and rats. The organochlorine and organophosphorus preparations were mixed at 2:1 ratio. While mixtures of kelthane and acrex with phthalophos and dimethoate, respectively, showed summation effect, judged from the LD50 value, all other combinations showed antagonistic effect. Phosalone, administered in 1/5 of LD50 dose for 3 consecutive days, increased the hepatic microsomal aminopyridine demethylase activity by a factor of 2 against the control, and milbex caused an increase by 3.8 times. The mixture of these two pesticides increased the enzyme activity by 7.4 times.
LANGUAGE: rus

1406. Yan, Dongyun, Jiang, Xin, Yu, Guifen, Zhao, Zhenhua, Bian, Yongrong, and Wang, Fang (2006). Quantitative structure-toxicity relationships of organophosphorous pesticides to fish (Cyprinus carpio). *Chemosphere* 63: 744-750.
Chem Codes: Chemical of Concern: PSM Rejection Code: QSAR.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2006:391358
Chemical Abstracts Number: CAN 145:390671
Section Code: 4-4
Section Title: Toxicology
Document Type: Journal
Language: written in English.

Index Terms: Toxicity (aquatic; quant. structure-toxicity relationships of organophosphorous pesticides to fish); Pesticides (organophosphorus; quant. structure-toxicity relationships of organophosphorous pesticides to fish); Cyprinus carpio; Ecotoxicity; Hydrophobicity; QSAR; Simulation and Modeling (quant. structure-toxicity relationships of organophosphorous pesticides to fish)
CAS Registry Numbers: 52-68-6; 55-38-9; 56-38-2; 78-48-8; 97-17-6; 119-12-0; 121-75-5; 122-14-5; 298-00-0; 298-04-4; 300-76-5; 333-41-5; 470-90-6; 533-37-9; 563-12-2; 732-11-6; 741-58-2; 950-37-8; 1754-58-1; 2104-64-5; 2310-17-0; 2540-82-1; 2595-54-2; 2636-26-2; 2921-88-2; 3309-87-3; 3811-49-2; 5598-13-0; 7292-16-2; 10311-84-9; 13067-93-1; 13286-32-3; 18853-26-4 (O,O-Dimethyl-O-(5-phenyl-3-isoxazolyl) phosphorothioate); 18854-01-8; 22350-76-1; 24151-93-7; 29232-93-7; 54381-26-9 (O-2-Chloro-4-(methylthio)phenyl O-methyl ethylphosphorothioamidate); 98962-07-3 (S-Isopropylthiomethyl O,O-dimethyl phosphorodithioate); 911002-57-8 Role: ADV (Adverse effect, including toxicity), PRP (Properties), BIOL (Biological study) (quant. structure-toxicity relationships of organophosphorous pesticides to fish)
Citations: Bermudez-Saldana, J; J Chromatogr B 2005, 814, 115
Citations: Cronin, M; Sci Total Environ 1997, 204, 75
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Citations: Wang, X; Chemosphere 2001, 44, 447
Citations: Yin, C; Water Res 2002, 36, 2975 This study was conducted to det. the relationships between 1381 chem. and structural parameters of 43 organophosphorus pesticides (OPs) and their toxicity to fish, C. carpio, using ChemOffice 8.03 and Dragon 2.1. By multivariate linear regression and intervariable regression analyses, various equations have been derived to calc. the lethal toxicity value, LC50, for 43 OPs found in fish with different levels of toxicity. Results show that for all selected OPs, esp. those of low toxic OPs (LC50 <2.5 mM), the equation, LC50 = 56.259 - 13.071 lg Kow + 17.510 MATS8P - 17.455 Mor24u - 0.085 MW + 1.706 (lg Kow)2 + 2.306 (Mor14e)2 + 6.849 Mor20m (n = 43, F = 36.815, r = 0.942, r2adj = 0.862 , SE = 2.899, $p < 10^{-6}$), could account for 86.2% of the variability of the toxic effect. The steric and electronic characteristics and the hydrophobicity of OPs, in particular, are among the most important parameters detg. the toxicity of OPs to fish. For the OPs with high toxicity, different structural parameters were introduced into the following 2 equations: LC50 = 3.795 - 1.195 (H1p)2 - 0.037 U - 2.225 MATS3v - 19.593 Tcon (n = 16, F = 56.820, r = 0.977, r2adj = 0.937, SE = 0.143, $p < 10^{-6}$), where LC50 is <2.5 mM, and LC50 = 0.341 - 0.561 (HOMA)2 + 0.231 HOMA (n = 3, r2adj = 1), where LC50 is <0.3 mM. These results suggest that chem. and structural parameters could be useful in modeling chem. reactivity within homologous series of OP compds. and elucidating possible mechanisms assocd. with different levels of toxicity to fish. [on SciFinder (R)] 0045-6535 organophosphorus/ pesticide/ toxicity/ fish/ QSAR

1407. Yan-Ming, Liu, Xiu-Ping, Yuan, and Qi-Ya, Zhang (2006). Spatial distribution and morphologic diversity of virioplankton in Lake Donghu, China. *Acta Oecologica* 29: 328-334.
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS, BACTERIA, SURVEY.

The spatial distribution and morphological diversity of virioplankton were determined in Lake Donghu which contains three trophic regions: hypertrophic, eutrophic and mesotrophic region. Virioplankton abundance measured by transmission electron microscope (TEM) ranged from 7.7 x 108 to 3.0 x 109 ml-1, being among the highest observed in any natural aquatic system examined so far. The spatial distribution of virioplankton was correlated significantly with chlorophyll a concentration ($r = 0.847$; $P < 0.01$) at the sampling sites in Lake Donghu. 76 morphotypes were observed. Most morphotypes have tails, belonging to Siphoviridae, Myoviridae and Podoviridae. The majority of tailed phages in the lake were Myoviridae. Morphotypes which were rarely reported, such as prolate-headed virus-like particles, lemon-shaped virus-like particle, and viruses resembling Tectiviridae and Corticoviridae were all observed in the lake. It is concluded that the high viral abundance might be associated with high density of phytoplankton including algae and cyanobacteria. There was high viral diversity in this eutrophic shallow lake. In addition, cyanophage represented an important fraction of the virioplankton community in Lake Donghu. Virioplankton/ Spatial distribution/ Morphological diversity/ Lake Donghu/ Bacterioplankton/ Chlorophyll a http://www.sciencedirect.com/science/article/B6VR3-4J8D98P-1/2/04ef0985a0defd1c41896e8db126d4ff

1408. YANG, Hong-jun, SHEN, Zhe-min, ZHU, Song-he, and WANG, Wen-hua (2007). Vertical and temporal distribution of nitrogen and phosphorus and relationship with their influencing factors in aquatic-terrestrial ecotone: a case study in Taihu Lake, China. *Journal of Environmental Sciences* 19: 689-695.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE, BACTERIA.

Vertical and temporal distributions of N and P in soil solution in aquatic-terrestrial ecotone (ATE) of Taihu Lake were investigated, and the relations among N, P, ORP (oxidation reduction potential), TOC, root system biomass and microorganism were studied. As a whole, significant declines in TN, NO3--N, DON (dissolved organic nitrogen) and TP concentration in soil solution have occurred with increase of the depth, and reached their minima at 60 cm depth, except for NH4+-N, which increased with depth. The concentration of TP increased gradually from spring to winter in the topsoil, the maximum 0.08 mg/L presented in the winter while the minimum 0.03 mg/L in spring. In the deeper layer, the concentration value of TP fluctuated little. As for the NO3--N, its seasonal variation was significant at 20 cm depth, its concentration increased gradually from spring to autumn, and decreased markedly in winter. Vertical and temporal distribution of DON is contrary to that of NO3--N. The results also show that the variation of N and P in the percolate between adjacent layers is obviously different. The vertical variation of TN, TP, NO3--N, NH4+-N and DON is significant, of which the variation coefficient of NO3--N along the depth reaches 100.23%, the highest; while the variation coefficient of DON is 41.14%, the smallest. The results of correlation analysis show that the concentration of nitrogen and phosphorus correlate significantly with TOC, ORP, root biomass and counts of nitrifying bacteria. Most nutrients altered much from 20 to 40 cm along the depth. However, DON changed more between 60 and 80 cm. Results show that soil of 0-60 cm depth is active rhizoplane, with strong capability to remove the nitrogen and phosphorus in ATE. It may suggest that there exists the optimum ecological efficiency in the depth of above 60 cm in reed wetland. This will be very significant for ecological restoration and reestablishment. aquatic-terrestrial ecotone (ATE)/ soil percolate/ vertical and temporal distribution/ coefficient of variation/ ecological efficiency http://www.sciencedirect.com/science/article/B8CX4-4NXH6S2-B/2/1fba8d8226413628a89dbcff5fb3c072

1409. Yang, Qing X., Lindquist, Martin A., Shepp, Lawrence, Zhang, Cun-Hui, Wang, Jianli, and Smith, Michael B. (2002). Two dimensional prolate spheroidal wave functions for MRI. *Journal of Magnetic Resonance* 158: 43-51.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Magnetic resonance imaging/ Signal processing/ k-Space sampling/ Prolate spheroidal wave function/ Rapid data acquisition http://www.sciencedirect.com/science/article/B6WJX-473VMP0-5/2/7af7f666137c5e9321caf02e904762b7

1410. Yap, Nida L. and Rao, Venigalla Basaveswara (1996). Novel Mutants in the 5' Upstream Region of the Portal Protein Gene20Overcome a gp40-dependent Prohead Assembly Block in Bacteriophage T4. *Journal of Molecular Biology* 263: 539-550.
Chem Codes: Chemical of Concern: PSM Rejection Code: VIRUS.

The exact mechanism by which the double-stranded (ds) DNA bacteriophages incorporate the portal protein at a unique vertex of the icosahedral capsid is unknown. In phage T4, there is evidence that this vertex, constituted by 12 subunits of gp20, acts as an initiator for the assembly of the major capsid protein and the scaffolding proteins into a prolate icosahedron of precise dimensions. Assembly of the T4 initiator vertex occurs on the membrane and is facilitated by the non-structural protein gp40. gp40 apparently acts as a catalyst for the gp20 assembly and a direct interaction between gp20 and gp40 has been proposed based on the genetic evidence that second site suppressors of g40mutants map in g20. But, surprisingly, we found that these40bypass mutants arose not by alterations in the g20structural gene, but by alterations in the upstream non-coding region. At least six independent bypass mutants were isolated with all except one having mutations in the non-coding region. The only exception that had a mutation in the coding region was a silent mutation, since it did not alter the amino acid sequence of gp20. The bypass mutants produced a three- to fivefold overexpression of gp20. That the gp20 overexpression is directly responsible for40bypass was shown by a number of approaches. The overexpression was apparently due to a secondary structural change in the g20transcript resulting in an enhanced translational initiation of g20message. The data suggest that the regulation of portal protein gene expression is an important regulator of prohead assembly in bacteriophage T4. bacteriophage T4; portal protein; bypass mutants; chaperone; prohead assembly
http://www.sciencedirect.com/science/article/B6WK7-45MG2BM-1V/2/abe12b55fc0865faa4c68ccba0f804c4

1411. Yeniguen, O. and Sohtorik, D (1995). Calculations with the Level II Fugacity Model for selected organophosphorus insecticides. *Water, Air, and Soil Pollution* 84: 175-85.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1995:860069
Chemical Abstracts Number: CAN 123:320867
Section Code: 59-2
Section Title: Air Pollution and Industrial Hygiene
CA Section Cross-References: 5, 12, 19, 53, 61
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (calcns. with Level II Fugacity Model for selected organophosphorus insecticides); Air pollution; Biota; Environmental modeling; Environmental pollution; Environmental transport; Geological sediments; Soil pollution; Water pollution (calcns. with Level II Fugacity Model for selected organophosphorus insecticides in); Geological sediments (suspended, calcns. with Level II Fugacity Model for selected organophosphorus insecticides in)
CAS Registry Numbers: 52-68-6 (Trichlorphon); 56-38-2 (Parathion); 62-73-7 (Dichlorvos); 86-50-0 (Azinphos-methyl); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 298-00-0 (Methyl-parathion); 298-02-2 (Phorate); 299-84-3 (Ronnel); 333-41-5; 563-12-2 (Ethion); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 2104-96-3 (Bromophos); 2310-17-0 (Phosolone); 2921-88-2 (Chlorpyriphos); 5598-13-0; 13171-21-6 (Phosphamidon) Role: POL (Pollutant), OCCU (Occurrence) (calcns. with Level II Fugacity Model for selected organophosphorus insecticides)
The environmental equil. distributions and levels of persistency of 20 selected organophosphorus

insecticides have been detd. using Mackay's Level II Fugacity Model. The model comprised air, water, biota, soil, suspended solids, and sediment compartments. Available physicochem. and kinetic data for the insecticides have been compiled. Results suggest that some of the insecticides have tendencies to occur at high concns. in biota and may be environmentally persistent. [on SciFinder (R)] 0049-6979 organophosphorus/ insecticide/ persistence/ environment/ compartment/ model;/ fugacity/ model/ organophosphorus/ pesticide/ distribution/ environment

1412. Yeoman, Guy Henry (19840704). Eradication of mites. 11 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1984:565581
Chemical Abstracts Number: CAN 101:165581
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Coden: EPXXDW
Index Terms: Sarcoptes scabiei suis (control of, with phosmet); Swine (mange mite control on, with phosmet)
CAS Registry Numbers: 732-11-6 Role: BIOL (Biological study) (pig mange mite control by)
Reg.Pat.Tr.Des.States: Designated States R: BE, CH, DE, FR, GB, IT, LI, NL, SE.
Patent Application Country: Application: EP
Priority Application Country: GB
Priority Application Number: 82-19377
Priority Application Date: 19820705 Pig mange mite (Sarcoptes scabiei suis) infestations of pigs are controlled by pour-on applications of insecticide formulations contg. 20 mg phosmet [732-11-6] per kg pig. Suitable regimes are to apply phosmet to sows just prior to farrowing and to boars at 6 mo. intervals. [on SciFinder (R)] A01N057-16; A61K031-675. phosmet/ mange/ mite/ control/ pig

1413. Yess, N. J. (1992). Us Food and Drug Administration Pesticide Program Residues in Foods 1991. *J aoac (assoc off anal chem) int* 75: 135a-157a.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM HUMAN INSECTICIDE FUNGICIDE HERBICIDE FOOD RESIDUES DIETARY INTAKE ANALYTICAL METHOD FDA USA
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: BIOPHYSICS/METHODS
MESH HEADINGS: NUTRITION
MESH HEADINGS: NUTRITIONAL STATUS
MESH HEADINGS: DIET
MESH HEADINGS: IATROGENIC DISEASE
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: HOMINIDAE
KEYWORDS: General Biology-Institutions

KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biophysics-General Biophysical Techniques
KEYWORDS: Nutrition-General Studies
KEYWORDS: Nutrition-Pathogenic Diets
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Toxicology-Foods
KEYWORDS: Hominidae
LANGUAGE: eng

1414. Yess, Norma J (1991). Food and Drug Administration pesticide program - residues in foods - 1990. *Journal - Association of Official Analytical Chemists* 74: 1-20, inside back cover.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1991:581745
Chemical Abstracts Number: CAN 115:181745
Section Code: 17-5
Section Title: Food and Feed Chemistry
CA Section Cross-References: 5
Document Type: Journal
Language: written in English.
Index Terms: Beverages (bases, pesticides of, of USA); Food contamination (by pesticides, in USA); Turnip (greens, pesticides of, of USA); Pesticides (of food and diet, in USA); Diet (pesticides of, in USA); Alcoholic beverages; Apple; Apricot; Artocarpus altilis; Asparagus; Avocado; Bakery products; Balsam pear; Banana; Barley; Bean; Beer; Berry; Blackberry; Blueberry; Boysenberry; Broccoli; Brussels sprout; Cabbage; Carrot; Cashew; Cauliflower; Celery; Cereal; Cheese; Cherry; Chickpea; Chicory; Chinese cabbage; Coconut; Condiments; Corn; Cranberry; Cream; Cucumber; Dairy products; Egg; Eggplant; Endive; Fish; Fruit; Fruit and vegetable juices; Grape; Grapefruit; Guava; Honey; Jams and Jellies; Kale; Leek; Lemon; Lettuce; Lime; Mango; Milk; Mushroom; Nectarine; Nut; Oat; Okra; Olive; Onion; Orange; Papaya; Pasta; Pea; Peach; Peanut; Pear; Pecan; Plum; Potato; Prune; Radish; Raspberry; Rice; Rutabaga; Shallot; Shellfish; Soybean; Spices; Spinach; Strawberry; Sweet potato; Tomato; Tuberaceae; Vegetable; Vigna radiata; Watermelon; Wheat; Wine (pesticides of, of USA); Beet (Swiss chard, pesticides of, of USA); Coffee products; Tea products (beverages, pesticides of, of USA); Melon (cantaloupe, pesticides of, of USA); Fruit (citrus, pesticides of, of USA); Syrups (fruit, pesticides of, of USA); Capsicum annuum annuum (grossum group, pesticides of, of USA); Melon (honeydew, pesticides of, of USA); Vegetable (leafy green, pesticides of, of USA); Brassica (mustard, greens, pesticides of, of USA); Seed (oil-, pesticides of, of USA); Bean (pinto, pesticides of, of USA); Corn (pop-, pesticides of, of USA); Cucurbita (pumpkin, pesticides of, of USA); Beet (red, pesticides of, of USA); Cucurbita (squash, pesticides of, of USA); Fruit (stone, pesticides of, of USA); Beet (sugar, pesticides of, of USA); Mandarin orange (tangerine, pesticides of, of USA); Oils Role: BIOL (Biological study) (vegetable, pesticides of, of USA); Banana (M. paradisiaca, pesticides of, of USA)
CAS Registry Numbers: 64-17-5 Role: BIOL (Biological study) (alcoholic beverages, pesticides of, of USA); 87-86-5 (Pentachlorophenol); 101-42-8 (Fenuron); 319-84-6 (a-BHC); 319-85-7 (b-BHC) Role: BIOL (Biological study) (of diet, in USA); 50-29-3 (DDT); 56-38-2 (Parathion); 58-89-9 (g-BHC); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2 (Carbaryl); 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0 (Azinphos-methyl); 99-30-9 (Dichloran); 101-21-3 (Chlorpropham); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-29-0 (Tetradifon); 117-18-0 (Tecnazene); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8 (Thiabendazole); 298-04-4 (Disulfoton); 330-55-2 (Linuron); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1861-32-1 (DCPA); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2921-88-2 (Chlorpyrifos); 5598-

13-0 (Chlorpyrifos-methyl); 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 8065-48-3 (Demeton); 10265-92-6 (Methamidophos); 12789-03-6 (Chlordane); 13171-21-6 (Phosphamidon); 16752-77-5 (Methomyl); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 36734-19-7 (Iprodione); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52645-53-1 (Permethrin) Role: BOC (Biological occurrence), BSU (Biological study, unclassified), BIOL (Biological study), OCCU (Occurrence) (of food and diet, in USA); 55-38-9 (Fenthion); 62-73-7 (Dichlorvos); 72-20-8 (Endrin); 72-54-8 (TDE); 80-33-1 (Ovex); 90-43-7 (o-Phenylphenol); 101-05-3 (Anilazine); 106-93-4 (Ethylene dibromide); 116-06-3 (Aldicarb); 122-14-5 (Fenitrothion); 122-39-4 (Diphenylamine); 141-66-2 (Dicrotophos); 142-59-6 (Nabam); 298-00-0 (Parathion-methyl); 299-84-3 (Ronnel); 301-12-2 (Oxydemeton-methyl); 309-00-2 (Aldrin); 470-90-6 (Chlorfenvinphos); 510-15-6 (Chlorobenzilate); 731-27-1 (Tolylfluanid); 1085-98-9 (Dichlofluanid); 1194-65-6 (Dichlobenil); 1582-09-8 (Trifluralin); 1596-84-5 (Daminozide); 1646-88-4 (Aldoxycarb); 1918-00-9 (Dicamba); 2032-65-7 (Methiocarb); 2104-64-5 (EPN); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2385-85-5 (Mirex); 2425-06-1 (Captafol); 2595-54-2 (Mecarbam); 2597-03-7 (Phenthoate); 3566-10-7 (Amobam); 5234-68-4 (Carboxin); 6923-22-4 (Monocrotophos); 7446-09-5 (Sulfur dioxide); 8018-01-7 (Mancozeb); 9006-42-2 (Metiram); 10605-21-7 (Carbendazim); 12122-67-7 (Zineb); 12427-38-2 (Maneb); 13121-70-5 (Cyhexatin); 13593-03-8 (Quinalphos); 17804-35-2 (Benomyl); 22248-79-9 (Gardona); 23950-58-5 (Pronamide); 32809-16-8 (Procymidone); 35400-43-2 (Sulprofos); 35554-44-0 (Imazalil); 41198-08-7 (Profenofos); 43121-43-3 (Triadimefon); 52315-07-8 (Cypermethrin); 55219-65-3 (Triadimenol); 60168-88-9 (Fenarimol); 69409-94-5 (Fluvalinate); 82657-04-3 (Bifenthrin); 88671-89-0 (Myclobutanil) Role: BIOL (Biological study) (of food, in USA); 7732-18-5 (Water) Role: BIOL (Biological study) (pesticides of, of USA) Under its monitoring focused on enforcing tolerances set by the Environmental Protection Agency (EPA), FDA analyzed a total of 19,962 samples of domestically produced food from all 50 states and Puerto Rico and imported food from 92 countries. Of these, 19,146 were surveillance samples, collected with no evidence of illegal pesticide residues. No pesticide residues were found in 60% of the 8879 domestic surveillance samples and 64% of the 10,267 import surveillance samples. In an aquaculture survey, 172 samples of shell- and finfish were analyzed for some environmentally persistent pesticides. Low levels of chlorinated pesticide residues, none of which exceeded EPA tolerances or FDA action levels, were found in a no. of samples. A survey of pasteurized whole milk from U.S. metropolitan areas found that residues of chlorinated pesticides were present in about 53% of the 330 samples. In a survey of processed foods, including baby foods and nuts, 3502 samples were analyzed for various pesticides. No residues were found that were over tolerance or for which there was no tolerance. In the Total Diet Study, which measures pesticide residues in foods, as consumed. 936 food items representing the diets of U.S. consumers were analyzed. Of the >200 chems. that can be detd. by the anal. methods used, 51 were found in the foods analyzed. As in previous years, the levels of estd. dietary intakes of the pesticides found were generally well below established stds. The results from regulatory monitoring, incidence/level monitoring, and the Total Diet Study for 1990 agree with findings from earlier years and corroborate the continuing safety of the U.S. food supply relative to pesticide residues. [on SciFinder (R)] 0004-5756 pesticide/ food/ diet

1415. Yess, Norma J (1992). Residue monitoring 1991. *Journal of AOAC International* 75: 135A-157A.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:632489
Chemical Abstracts Number: CAN 117:232489
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Feed contamination; Food contamination (by pesticides, in USA); Turnip (greens and roots, pesticides of, in USA); Pesticides (in feed and food, in USA); Diet (pesticides in, in USA); Hazel; Nut; Peanut; Pecan (pesticides of nut of, in USA); Actinidia

chinensis; Alcoholic beverages; Apple; Apricot; Artichoke; Artocarpus altilis; Asparagus; Avocado; Bakery products; Balsam pear; Banana; Barley; Bean; Berry; Beverages; Blackberry; Blueberry; Broccoli; Brussels sprout; Cabbage; Cajanus indicus; Carrot; Cashew; Cassava; Cauliflower; Celery; Cereal; Cheese; Cherry; Chestnut; Chickpea; Chicory; Chinese broccoli; Chinese cabbage; Clementine; Coconut; Coffee products; Colocasia esculenta; Condiments; Cranberry; Cream; Cucumber; Dairy products; Egg; Eggplant; Eggplant; Endive; Fish; Fruit; Fruit and vegetable juices; Ginger; Grape; Grapefruit; Honey; Jams and Jellies; Kale; Leek; Lemon; Lettuce; Lime; Mango; Meat; Milk; Mushroom; Nectarine; Oat; Okra; Olive; Onion; Orange; Pakchoi; Papaya; Parsnip; Pasta; Pea; Peach; Pear; Physalis ixocarpa; Pineapple; Plum; Potato; Radicchio; Radish; Raspberry; Rice; Rutabaga; Salad dressings; Shallot; Shellfish; Soybean; Soybean curd; Spices; Spinach; Strawberry; Sweet potato; Tea products; Tomato; Turnip broccoli; Vigna radiata; Water chestnut; Watermelon; Wheat; Wine (pesticides of, in USA); Beet (Swiss chard, pesticides of, in USA); Melon (cantaloupe, pesticides of, in USA); Fruit (citrus, pesticides of, in USA); Bakery products (cookies, pesticides of, in USA); Bakery products (crackers, pesticides of, in USA); Syrups (fruit, pesticides of, in USA); Capsicum annuum annuum (grossum group, pesticides of, in USA); Melon (honeydew, pesticides of, in USA); Vegetable (leafy green, pesticides of, in USA); Capsicum annuum annuum (longum group, pesticides of, in USA); Brassica (mustard, greens, pesticides of, in USA); Bean (navy, pesticides of, in USA); Corn (pop-, pesticides of, in USA); Cucurbita (pumpkin, pesticides of, in USA); Beet (red, pesticides of, in USA); Vegetable (root, pesticides of, in USA); Cucurbita (squash, pesticides of, in USA); Fruit (stone, pesticides of, in USA); Beet (sugar, pesticides of, in USA); Corn (sweet, pesticides of, in USA); Fruit (tropical, pesticides of, in USA); Fats and Glyceridic oils Role: BIOL (Biological study) (vegetable, pesticides of, in USA); Banana (M. paradisiaca, pesticides of, in USA); Passionflower (P. edulis, pesticides of, in USA)
CAS Registry Numbers: 64-17-5 Role: OCCU (Occurrence) (alcoholic beverages, pesticides of, in USA); 50-29-3 (DDT); 56-38-2 (Parathion); 58-89-9; 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7; 63-25-2 (Carbaryl) Role: BIOL (Biological study) (of feeds and foods, of USA); 72-20-8 (Endrin); 72-43-5 (P,P'-Methoxychlor); 76-44-8 (Heptachlor); 78-48-8 (DEF); 82-68-8; 86-50-0 (Azinphos-methyl); 87-86-5 (Pentachlorophenol); 99-30-9 (Dicloran); 101-21-3 (Chlorpropham); 101-42-8 (Fenuron); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 133-06-2 (Captan); 148-79-8 (Thiabendazole); 298-00-0 (Parathion-methyl); 319-84-6 (a-BHC); 330-55-2 (Linuron); 333-41-5 (Diazinon); 555-37-3 (Neburon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 944-22-9 (Fonofos); 1113-02-6 (Omethoate); 1563-66-2 (Carbofuran); 1861-32-1 (DCPA); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2921-88-2 (Chlorpyrifos); 3060-89-7 (Metobromuron); 5598-13-0 (Chlorpyrifos-methyl); 7786-34-7 (Mevinphos); 8001-35-2 (Toxaphene); 8065-48-3 (Demeton); 10265-92-6 (Methamidophos); 12789-03-6 (Chlordane); 16752-77-5 (Methomyl); 29232-93-7 (Pirimiphos-methyl); 30560-19-1; 36734-19-7 (Iprodione); 50471-44-8 (Vinclozolin); 52645-53-1 Role: OCCU (Occurrence) (of feeds and foods, of USA) This is the fifth in a series of annual reports from the Food and Drug Administration (FDA) that describe the pesticide monitoring program and present findings from that monitoring. The 1991 report explains the 3 approaches FDA uses to carry out its pesticide program, gives results for Fiscal Year (FY) 1991, and summarizes the findings for the 5 yr of annual report publication. Under its monitoring focused on enforcing tolerances set by the Environmental Protection Agency, FDA analyzed a total of 19,082 samples of domestically produced food from all 50 states and Puerto Rico and imported food from 102 countries. Of these, 18,214 were surveillance samples, collected when there was no evidence that a shipment might contain illegal pesticide residues. No pesticide residues were found in 64% of the 8281 domestic surveillance samples and 69% of the 9933 import surveillance samples. Under incidence/level monitoring, 3 projects were carried out in FY91. In an aquaculture survey, 188 samples of shell- and finfish were analyzed for some environmentally persistent pesticides. Low levels of chlorinated pesticide residues, none of which exceeded EPA tolerances or FDA action levels, were found in a no. of the samples. A survey of pasteurized whole milk from U.S. metropolitan areas found that residues of chlorinated pesticides were present in about 49% of the 806 samples. In surveys covering a variety of foods, including baby foods; bananas and citrus fruits; dried beans, dried fruits, and rice; foods with postharvest uses and/or food additive tolerances; and processed foods, a total of 5565 analyses were performed for

selected pesticide residues. No residues were found that were over tolerance or for which there was no tolerance. In the Total Diet Study, which measures pesticide residues in foods as consumed, 936 food items representing the diets of U.S. consumers were analyzed. Of the >200 chems. that can be detd. by the anal. methods used, 51 were found in the foods analyzed. As in previous years, the levels of estd. dietary intakes of the pesticides found were generally well below established stds. A summary of FDA's pesticide residue findings for FY87-FY91 shows consistently low nos. of violative samples, and thus confirms the safety of the food supply relative to pesticide residues. [on SciFinder (R)] 1060-3271 pesticide/ feed/ food/ contamination

1416. Yess, Norma J., Gunderson, Ellis L., and Roy, Ronald R (1993). U.S. Food and Drug Administration monitoring of pesticide residues in infant foods and adult foods eaten by infants/children. *Journal of AOAC International* 76: 492-507.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1993:624641
Chemical Abstracts Number: CAN 119:224641
Section Code: 17-5
Section Title: Food and Feed Chemistry
Document Type: Journal
Language: written in English.
Index Terms: Food contamination (by pesticides, in USA); Pesticides (of foods for adults and infants, in USA); Food (infant, pesticides in, of USA)
CAS Registry Numbers: 50-29-3 (DDT); 56-38-2 (Parathion); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 63-25-2; 72-43-5 (Methoxychlor); 76-44-8 (Heptachlor); 82-68-8 (Quintozene); 86-50-0; 86-87-3 (1-Naphthaleneacetic acid); 87-86-5; 90-43-7 ([1,1'-Biphenyl]-2-ol); 99-30-9 (Dicloran); 106-93-4 (Ethylenedibromide); 111-54-6; 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 116-29-0 (Tetradifon); 118-74-1 (Hexachlorobenzene); 121-75-5; 122-34-9 (Simazine); 122-39-4 (Diphenylamine); 133-06-2 (Captan); 133-07-3 (Folpet); 148-79-8; 301-12-2 (Oxydemeton-methyl); 319-84-6 (a-BHC); 333-41-5 (Diazinon); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1113-02-6 (Omethoate); 1596-84-5 (Daminozide); 1861-32-1 (DCPA); 1897-45-6 (Chlorothalonil); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2425-06-1 (Captafol); 2439-01-2; 2636-26-2 (Cyanophos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 10605-21-7 (Carbendazim); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprop); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 17804-35-2; 22248-79-9 (Gardona); 23135-22-0 (Oxamyl); 23422-53-9 (Formetanate hydrochloride); 30560-19-1; 34643-46-4 (Prothiofos); 35367-38-5; 35554-44-0 (Imazalil); 36734-19-7 (Iprodione); 39300-45-3 (Dinocap); 41198-08-7 (Profenofos); 50471-44-8 (Vinclozolin); 51630-58-1 (Fenvalerate); 52645-53-1; 66230-04-4 (Esfenvalerate); 74115-24-5 (Clofentezine) Role: FFD (Food or feed use), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence), USES (Uses) (of foods for adults and infants, in USA) The U.S. Food and Drug Administration uses 3 approaches to monitor pesticide residues in foods: regulatory monitoring, incidence/level monitoring, and the Total Diet Study. The results of monitoring infant foods and adult foods that may be eaten by infants/children under these 3 approaches are presented. Under regulatory monitoring, which is performed to enforce tolerances set by the U.S. Environmental Protection Agency (EPA), during fiscal years 1985-1991, over 10,000 such domestic and imported food samples were collected and analyzed, and under the Total Diet Study, in which pesticide residue intakes are estd. in foods prepd. for consumption, the food items in 27 market baskets were analyzed. Under incidence/level monitoring, which is complementary to regulatory monitoring, over 4000 analyses were performed on infant foods and adult foods eaten by children. Fewer than 50 of the 10,000 regulatory samples had violative residues; nearly all of those were residues for which there was no tolerance set for the particular commodity/pesticide combination. Under incidence/level monitoring and the Total Diet Study, the levels of pesticide residues found in infant foods and adult foods eaten by children were well below tolerances set by EPA. [on

SciFinder (R)] 1060-3271 pesticide/ food;/ infant/ food/ pesticide

1417. Yong Woo Rim and Beuselinck, P. R. (1996). Cytology of 2n Pollen Formation and Pollen Morphology in Diploid Lotus Tenuis (Fabaceae). *American Journal of Botany, 83 (8) pp. 1057-1062, 1996.*
Chem Codes: Chemical of Concern: PSM Rejection Code: IN VITRO.

ISSN: 0002-9122
Descriptors: Fabaceae
Descriptors: genetics
Descriptors: lotus
Descriptors: reproduction
Descriptors: trefoil
Abstract: Two genotypes of Lotus tenuis Waldst and Kit. ex Willd. PI 204882, a diploid (2n = 2x = 12), were identified as producing 2n pollen (maximum =6%). The objectives of this research were: (1) to determine the mechanism(s) of 2n pollen formation in the L tenuis genotypes and (2) to morphologically describe n and 2n pollen using light and scanning electron microscopy. Meiotic studies revealed that 2n pollen resulted from tripolar spindles during anaphase II of microsporogenesis. The 2n pollen germinated well, although abnormal pollen tubes were observed. The genetic constitution of 2n pollen resulting from tripolar spindles is equivalent to first division restitution (FIR) of meiosis. Fresh and air-dried pollen samples exhibited differences in size and shape under light and scanning electron microscopy. The size of diphloid (2/n) pollen was larger than that of haploid (In) pollen. Normal haploid (1n) pollen was globose-prolate in shape, while diploid (2n) pollen was tetrahedral in shape.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: United States
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.12.1.1 GENETICS AND BREEDING: Genetics: Cytogenetics
Classification: 92.1.1.1 BIOCHEMISTRY: Molecular Biology: Gene structure, regulation and function
Subfile: Plant Science

1418. Yonova, I. and Zhecheva, G. (Residues of Sevin, Neguvon, and Imidan in the Meat of Pigs Treated for Ectoparasites. *Vet. Med. Nauki 11(5): 28-34* 1974..
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. A study was made of 56 one-year-old pigs which had been treated topically for ectoparsite control with sevin (carbaryl), neguvon (trichlorfon), and imidan (phosmet). The animals were killed in succession up to the 50th day after treatment. Pesticide residues were extracted from samples of kidney fat and meat from the thigh and shoulder as well as liver tissue by a modification of the method of Brewerton and Langlois. Subsequent estimations were carried out by McRae and McKinley's method using thin-layer chromatography. The results of the study indicated that the pesticides penetrated through the skin for 2 to 5 days. They accumulated predominantly in the s.c. fat, sevin at 10 ppm, neguvon at 12 ppm, and imidan at 10 ppm. Also they accumulated partly in the meat: sevin at 6 ppm, neguvon at 7 ppm, and imidan at 8 ppm. The metabolism of the pesticides was also followed and several metabolites were identified.
LANGUAGE: bul

1419. Yoshioka, H., Akai, G., Yoshinaga, K., Hasegawa, K., and Yoshioka, H. (Protecting Effect of a Green Tea Percolate and Its Main Constituents Against Gamma Ray-Induced Scission of Dna. *Biosci biotechnol biochem. 1996, jan; 60(1):117-9. [Bioscience, biotechnology, and biochemistry]: Biosci Biotechnol Biochem*.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: Gamma ray-induced scission of puC18 plasmid DNA prepared from E. coli was examined in the presence of a green tea percolate and its main constituents, L-ascorbic acid (used as the sodium salt) and (-)-epigallocatechin gallate. Each of these showed a protecting effect against DNA scission. The relationship between the protecting effect against DNA scission and the scavenging effect of the hydroxyl radical was examined, and is discussed from the viewpoint of interaction with DNA.
MESH HEADINGS: Antimutagenic Agents/*pharmacology
MESH HEADINGS: Ascorbic Acid/pharmacology
MESH HEADINGS: Catechin/analogs &amp
MESH HEADINGS: derivatives/pharmacology
MESH HEADINGS: DNA Damage/*drug effects
MESH HEADINGS: Dose-Response Relationship, Drug
MESH HEADINGS: Electrophoresis, Polyacrylamide Gel
MESH HEADINGS: Escherichia coli/genetics
MESH HEADINGS: Free Radical Scavengers/pharmacology
MESH HEADINGS: Gamma Rays/*adverse effects
MESH HEADINGS: Hydroxyl Radical/adverse effects
MESH HEADINGS: Plant Extracts/pharmacology
MESH HEADINGS: Plasmids
MESH HEADINGS: Stereoisomerism
MESH HEADINGS: Tea/metabolism
LANGUAGE: eng

1420. Yoshioka, H., Kurosaki, H., Yoshinaga, K., Saito, K., and Yoshioka, H. (1997). Beta Ray-Induced Scission of Dna in Tritiated Water and Protection by a Green Tea Percolate and (-)-Epigallocatechin Gallate. *Bioscience biotechnology and biochemistry* 61: 1560-1563.
Chem Codes: Chemical of Concern: PSM Rejection Code: BACTERIA.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The beta-ray induced scission of puC18 plasmid DNA from E. coli in tritiated water was examined in the presence or absence of a green tea percolate (TP) and the main constituent, (-)-epigallocatechin gallate (EGCg). An analysis of the ratio of the original closed-circular to the open-circular form of DNA, which was formed by the strand scission of DNA, revealed that TP and EGCg showed a protective effect on DNA scission depending on their concentrations. A new technique, named solid state spin trapping, was applied to examine this scavenging ability toward the hydroxyl (OH) radical generated in tritiated water. The result was kinetically analyzed to reveal that TP and EGCg showed the scavenging effect, suggesting that the protective effect on DNA scission was attributable to the scavenging effect on the OH radical.
MESH HEADINGS: ISOTOPES
MESH HEADINGS: RADIATION
MESH HEADINGS: RADIATION EFFECTS
MESH HEADINGS: RADIATION PROTECTION
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: NUCLEIC ACIDS
MESH HEADINGS: PURINES
MESH HEADINGS: PYRIMIDINES
MESH HEADINGS: DNA REPLICATION
MESH HEADINGS: TRANSCRIPTION, GENETIC
MESH HEADINGS: TRANSLATION, GENETIC
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: MACROMOLECULAR SYSTEMS
MESH HEADINGS: MOLECULAR BIOLOGY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: BACTERIA/GENETICS
MESH HEADINGS: VIRUSES/GENETICS

MESH HEADINGS: RADIATION DOSAGE
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: PLANTS/CHEMISTRY
MESH HEADINGS: ENTEROBACTERIACEAE
KEYWORDS: Radiation-Radiation and Isotope Techniques
KEYWORDS: Radiation-Radiation Effects and Protective Measures
KEYWORDS: Biochemical Studies-General
KEYWORDS: Biochemical Studies-Nucleic Acids
KEYWORDS: Replication
KEYWORDS: Biophysics-Molecular Properties and Macromolecules
KEYWORDS: Food Technology-General
KEYWORDS: Genetics of Bacteria and Viruses
KEYWORDS: Public Health: Environmental Health-Radiation Health
KEYWORDS: Plant Physiology
KEYWORDS: Enterobacteriaceae (1992-)
LANGUAGE: eng

1421. Yoshioka, Y., Mizuno, T., Ose, Y., and Sato, T (1986). The estimation of toxicity of chemicals on fish by physicochemical properties. *Chemosphere* 15: 195-203.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1986:181252
Chemical Abstracts Number: CAN 104:181252
Section Code: 4-3
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Oryzias latipes (chem. toxicity to, physicochem. properties in relation to); Toxicity (of chems., to killifish, physicochem. properties in relation to); Partition (of chems., toxicity to killifish in relation to); Rosin Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, to killifish, by physicochem. properties); Organic compounds Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, to killifish, physicochem. properties in relation to); Molecular structure-property relationship (partition, of chems., toxicity to killifish in relation to); Molecular structure-biological activity relationship (toxic, of chems., to killifish, physicochem. properties in relation to)
CAS Registry Numbers: 50-21-5; 50-29-3; 52-68-6; 55-38-9; 56-23-5; 56-38-2; 58-89-9; 60-57-1; 62-53-3; 62-73-7; 63-25-2; 65-85-0; 67-66-3; 67-68-5; 71-23-8; 72-20-8; 76-44-8; 78-98-8; 79-01-6; 80-33-1; 84-74-2; 85-41-6; 88-06-2; 88-69-7; 88-72-2; 88-75-5; 88-89-1; 90-15-3; 91-15-6; 91-23-6; 92-87-5; 94-75-7; 95-50-1; 95-51-2; 95-65-8; 95-76-1; 95-95-4; 98-54-4; 98-95-3; 99-97-8; 99-99-0; 100-01-6; 100-02-7; 100-47-0; 100-61-8; 100-63-0; 103-69-5; 104-94-9; 106-47-8; 106-49-0; 106-50-3; 107-13-1; 107-49-3; 108-39-4; 108-68-9; 108-69-0; 110-86-1; 114-26-1; 115-32-2; 120-82-1; 121-69-7; 121-75-5; 122-14-5; 122-34-9; 122-39-4; 123-91-1; 126-73-8; 127-18-4; 131-91-9; 133-07-3; 134-32-7; 135-19-3; 139-40-2; 156-43-4; 298-00-0; 298-04-4; 306-52-5; 309-00-2; 333-41-5; 494-52-0; 495-48-7; 504-29-0; 510-15-6; 554-84-7; 555-03-3; 563-12-2; 589-16-2; 626-17-5; 640-15-3; 732-11-6; 1014-69-3; 1129-41-5; 1195-46-6; 1912-26-1; 2104-64-5; 2274-67-1; 2425-10-7; 2540-82-1; 2631-37-0; 2631-40-5; 2636-26-2; 2655-14-3; 2921-88-2; 3766-81-2; 3942-54-9; 4403-71-8; 5598-13-0; 5836-10-2; 6164-98-3; 7287-19-6; 10311-84-9; 12789-03-6; 13067-93-1; 14202-66-5; 18181-80-1; 18809-57-9; 25154-52-3; 25265-76-3; 29232-93-7; 34643-46-4; 36614-38-7; 85026-55-7 Role: ADV (Adverse effect, including toxicity), BIOL (Biological study) (toxicity of, to killifish, by physicochem. properties) Using n-octanol/water partition coeff., mol. wt., org. and inorg. characters and mol. connectivity indexes, regression analyses were made to develop the estn. method of median lethal concn. of 123 chems. on Oryzias latipes (Red killifish); it became clear that mol. connectivity indexes are excellent. [on SciFinder (R)] 0045-6535 chem/ toxicity/ Oryzias/ physicochem/ property

1422. Younos, T. M. and Weigmann, D. L. (1988). Pesticides a Continuing Dilemma. *J water pollut control fed* 60: 1199-1205.
Chem Codes: Chemical of Concern: PSM Rejection Code: NO TOX DATA.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM REVIEW HERBICIDE INSECTICIDE FUNGICIDE ENVIRONMENTAL POLLUTANT REGULATION FEDERAL INSECTICIDE FUNGICIDE AND RODENTICIDE ACT
MESH HEADINGS: LEGISLATION
MESH HEADINGS: ORGANIZATION AND ADMINISTRATION
MESH HEADINGS: BIOLOGY
MESH HEADINGS: ECOLOGY
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: GRASSES/GROWTH & DEVELOPMENT
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: ARACHNIDA
MESH HEADINGS: ENTOMOLOGY/ECONOMICS
MESH HEADINGS: INSECTICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
KEYWORDS: General Biology-Institutions
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-General
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Agronomy-Weed Control
KEYWORDS: Pest Control
KEYWORDS: Economic Entomology-Chemical and Physical Control
LANGUAGE: eng

1423. Yousef, Y. A., Wanielista, M. P., Harper, H. H., Pearce, D. B., and Tolbert, R. D. (Best Management Practices: Removal of Highway Contaminants by Roadside Swales. *Govt reports announcements & index (gra&i), issue 03, 1986*.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: TD3: A research project to investigate the best management practices for highway runoff is being conducted. One phase of the project is to study the removal of highway contaminants by roadside swales. Their hydraulic efficiencies are based on their ability to infiltrate and percolate stormwater. Field experiments were designed to study pollutant concentrations and mass balances during flow through swales under controlled environments. From the results obtained, it appears that ionic species of metals, nitrogen and phosphorus species may be retained on the swale site by sorption, precipitation, co-precipitation and biological uptake processes. These processes can reduce pollutant concentrations in highway runoff flowing over swales. Final rept. on Phase 1, Jan 82-Mar 85, Sponsored by Federal Highway Administration, Tallahassee, FL. Florida Div., Florida State Dept. of Transportation, Gainesville. Bureau of Materials and Research, and Florida State Dept. of Transportation, Tallahassee. Bureau of Envi
KEYWORDS: Runoff
KEYWORDS: Water pollution control
KEYWORDS: Highways
KEYWORDS: Storm water runoff

1424. Yousef, Y. A. and Yu, L. L. (1992). Potential Contamination of Groundwater From Copper, Lead, and Zinc

in Wet Detention Ponds Receiving Highway Runoff. *J environ sci health part a environ sci eng* 27: 1033-1044.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. Heavy metals (Cu, Pb, Zn) in highway runoff entering detention ponds are removed by physical, chemical, and biological processes, and concentrate in the bottom sediments. Soluble metal fractions percolate into the bottom sediments and produce a potential for contamination of groundwater. Therefore, a two-year research project was supported by Florida Department of Transportation (FDOT) and Federal Highway Administration (FHWA) to study the fate and migration of those metals in bottom sediments of six wet detention ponds, located in Florida (USA). Sorption, molecular dispersion, and pilot studies were conducted in the laboratory to investigate metal transport through the sediment cores collected from these ponds. The results showed that the flow of metals through the bottom sediments is a very slow process. Most of these metals are retained in the top 15-20 cm of sediments and saturation of this layer may take years. Removal of accumulated bottom sediments at time interv
MESH HEADINGS: CONSERVATION OF NATURAL RESOURCES
MESH HEADINGS: MATHEMATICS
MESH HEADINGS: STATISTICS
MESH HEADINGS: BIOLOGY
MESH HEADINGS: ECOLOGY
MESH HEADINGS: FRESH WATER
MESH HEADINGS: MINERALS
MESH HEADINGS: BIOPHYSICS
MESH HEADINGS: CYBERNETICS
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
KEYWORDS: General Biology-Conservation
KEYWORDS: Mathematical Biology and Statistical Methods
KEYWORDS: Ecology
KEYWORDS: Biochemical Studies-Minerals
KEYWORDS: Biophysics-Biocybernetics (1972-)
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Public Health: Environmental Health-Air
LANGUAGE: eng

1425. Yousef, Y. A. and Yu, L. L. (1992). Potential Contamination of Groundwater From Cu, Pb, and Zn in Wet Detention Ponds Receiving Highway Runoff. *J. ENVIRON. SCI. HEALTH, PART A. Vol. A27, no. 4, pp. 1033-1044. 1992.*
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

Descriptors: Article Subject Terms: heavy metals
Descriptors: groundwater pollution
Descriptors: runoff
Descriptors: ponds
Descriptors: percolation
Descriptors: copper
Descriptors: lead
Descriptors: zinc
Descriptors: Article Geographic Terms: USA, Florida
Abstract: Heavy metals (Cu, Pb, Zn) in highway runoff entering detention ponds are removed by physical, chemical, and biological processes, and concentrate in the bottom sediments. Soluble metal fractions percolate into the bottom sediments and produce a potential for contamination of

groundwater. Therefore, a two-year research project was supported by Florida Department of Transportation and US Federal Highway Administration to study the fate and migration of these metals in bottom sediments of six wet detention ponds, located in Florida. Sorption, molecular dispersion, and pilot studies were conducted in the laboratory to investigate metal transport through the sediment cores collected from these ponds. The results showed that the flow of metals through the bottom sediments is a very slow process. Most of these metals are retained in the top 15-20 cm of sediments and saturation of this layer may take years. Removal of accumulated bottom sediments at time intervals averaging 25 years would be sufficient to minimize the potential contamination of groundwater. Also existing models were modified to simulate metal transport through the bottom sediments in wet detention ponds.
Language: English
English
Publication Type: Journal Article
Environmental Regime: Freshwater
Classification: Q5 01503 Characteristics, behavior and fate
Classification: P 2000 FRESHWATER POLLUTION
Subfile: Pollution Abstracts; ASFA 3: Aquatic Pollution & Environmental Quality

1426. Yuknavage, K. L., Fenske, R. A., Kalman, D. A., Keifer, M. C., and Furlong, C. E. (1997). Simulated Dermal Contamination With Capillary Samples and Field Cholinesterase Biomonitoring. *Journal of toxicology and environmental health* 51: 35-55.
Chem Codes: Chemical of Concern: PSM Rejection Code: HUMAN HEALTH.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The extensive international use of organophosphorus compounds (OP) results in numerous acute intoxications each year. OPs inhibit acetylcholinesterase, the enzyme responsible for breaking down the neurotransmitter acetylcholine. The World Health Organization recognizes cholinesterase (ChE) biomonitoring as a preventive measure against OP overexposure. The aim of this study was to determine if dermal OP contamination could interfere with current field ChE biomonitoring assays, which use a fingerstick blood sample. in this study we also sought to determine if high levels of a plasma enzyme, A-esterase, could protect ChE from inhibition by hydrolyzing environmentally generated oxons potentially present in a fingerstick sample. A heparinized venous blood sample was collected from a volunteer. Erythrocyte acetylcholinesterase (AChE) and plasma butyrylcholinesterase (PChE) activities were measured using a field-based colorimetric cholinesterase kit. ChE dose-response curves w
MESH HEADINGS: ENZYMES/ANALYSIS
MESH HEADINGS: DIAGNOSIS
MESH HEADINGS: SKIN
MESH HEADINGS: POISONING
MESH HEADINGS: ANIMALS, LABORATORY
MESH HEADINGS: ENVIRONMENTAL POLLUTANTS/POISONING
MESH HEADINGS: OCCUPATIONAL DISEASES
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: HOMINIDAE
KEYWORDS: Enzymes-Methods
KEYWORDS: Integumentary System-General
KEYWORDS: Toxicology-General
KEYWORDS: Toxicology-Environmental and Industrial Toxicology
KEYWORDS: Pest Control
KEYWORDS: Hominidae
LANGUAGE: eng

1427. Zabik, M. and Dickmann, G. (1988). Degradation of Dilute Pesticide Rinsates on Soils in Steel Containment Vessels. *Third chemical congress of north america held at the 195th american*

chemical society meeting, toronto, ontario, canada, june 5-10, 1988. Abstr pap chem congr north am 3: Agro 21.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. RRM ABSTRACT
MESH HEADINGS: CONGRESSES
MESH HEADINGS: BIOLOGY
MESH HEADINGS: BIOCHEMISTRY/METHODS
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: METABOLISM
MESH HEADINGS: SOIL MICROBIOLOGY
MESH HEADINGS: METHODS
MESH HEADINGS: PLANTS
MESH HEADINGS: SOIL
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: MICROBIOLOGY
KEYWORDS: General Biology-Symposia
KEYWORDS: Biochemical Methods-General
KEYWORDS: Biochemical Studies-General
KEYWORDS: Metabolism-General Metabolism
KEYWORDS: Soil Microbiology
KEYWORDS: Soil Science-General
KEYWORDS: Pest Control
KEYWORDS: Microorganisms-Unspecified
LANGUAGE: eng

1428. Zabka, Jan, Dolejsek, Zdenek, Hrusak, Jan, and Herman, Zdenek (1999). A crossed beam scattering study of reactions in the system acetylene cation-acetylene: formation of C2HD+[middle dot]in C2D2+[middle dot] + C2H2 and formation of C4H3+ and C4H2+[middle dot] in C2H2+[middle dot] + C2H2 collisions. *International Journal of Mass Spectrometry* 185-187: 195-205.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Dynamics of chemical reactions in the system acetylene cation-acetylene was investigated in crossed beam scattering experiments. Relative cross sections of formation of various products at T = 2.5 eV were C4X3+ : C4X2+[middle dot]: C2X2+[middle dot] = 1.0:0.55:0.17 (X = H, D). C2X2+[middle dot] (C2HD+[middle dot] from C2D2+[middle dot] + C2H2 collisions) traces the decomposition of an intermediate complex C4X4+[middle dot] backward to reform the reactants; the mean lifetime of the intermediate is longer than about 5 ps and its geometry in the critical configuration close to linear. The products C4H3+ and C4H2+[middle dot] are formed in exoergic reactions by the decomposition of a long-lived intermediate C4H4+[middle dot] of prolate geometry in its critical configuration. About 15% of the energy available at T = 1.5 eV in the latter two processes may be expected to be deposited as rotational energy of the product ion. Ion-molecule reactions/ Collisional dynamics/ Beam scattering/ Intermediate complex formation
http://www.sciencedirect.com/science/article/B6VND-3W78NT7-P/2/ea4565e21ff4bccced3febc8221fe0c6

1429. Zabolotny&#301, Kf, Metelitsa, V. K., and Nepoklonov, A. A. ([Detection of Phthalophos in Milk and Meat by Thin-Layer Chromatography]. *Veterinariia. 1971, may; 5:103-4. [Veterinariia]: Veterinariia*.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

MESH HEADINGS: Animals
MESH HEADINGS: Chromatography, Thin Layer
MESH HEADINGS: Food Analysis

MESH HEADINGS: *Food Contamination
MESH HEADINGS: Indoles/analysis
MESH HEADINGS: Meat/*analysis
MESH HEADINGS: Methods
MESH HEADINGS: Milk/*analysis
MESH HEADINGS: Phosphoric Acids/*analysis
LANGUAGE: rus
TRANSLIT/VERNAC TITLE: Vyiavlenie ftalofosa v moloke i miase metodom tonkosloĭnkoĭ khromatografii.

1430. Zagainyi, S. A., Ignatova, E. A., and Gur'ian, I. S. (1977). Pesticides for the Control of Grapholitha Molesta Busch. In Peach Trees. *Khim. Sel'sk. Khoz. 15(9): 56 1977 (2 references)* 15: 56.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: ABSTRACT.

ABSTRACT: PESTAB. Peach trees were sprayed 3-4 times with phosalone (30%), carbaryl, phthalophos (phosmet), and trichlorfon to control Grapholitha molesta Busch. The application rate was 3 liters of broth per tree. The residues in peaches were determined by thin-layer chromatography. Phosalone, phthalophos and trichlorfon residues were not detectable in the fruit 10 days after spraying, at which time the carbaryl residue level was 1.2 mg/kg. Carbaryl residues were found for over 30 days; the residue level was 0.3 mg/kg on the 24th day. The findings indicate that carbaryl is not recommended for use on peach trees because of its slow degradation.
LANGUAGE: rus

1431. Zahouily, M., Rhihil, A., Sebti, S., and Zakarya, D (2003). Analysis and interpretation of structure-toxicity relationships for a series of organophosphorus insecticides. *Physical & Chemical News* 9: 109-115.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:335751
Chemical Abstracts Number: CAN 139:192881
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 4
Document Type: Journal
Language: written in English.
Index Terms: Insecticides (organophosphorus; structure-toxicity relationships of); Simulation and Modeling (structure-toxicity relationships of organophosphorus insecticides); Structure-activity relationship (toxic; of organophosphorus insecticides)
CAS Registry Numbers: 52-68-6; 55-38-9; 60-51-5; 62-73-7; 121-75-5; 122-14-5; 298-02-2; 298-03-3; 298-04-4; 300-76-5; 301-12-2; 333-41-5; 470-90-6; 500-28-7; 640-15-3; 732-11-6; 786-19-6; 919-86-8; 961-11-5; 2463-84-5; 3079-05-8; 3851-88-5; 3907-41-3; 5314-03-4; 10105-31-4; 21154-60-9; 21192-94-9; 24262-88-2; 29232-93-7; 32522-77-3; 33025-57-9; 36765-94-3; 52234-58-9; 52337-88-9; 95389-90-5; 98139-30-1; 469886-74-6; 469886-75-7; 469886-76-8; 469886-77-9; 469886-78-0; 469886-79-1; 469886-80-4; 469886-81-5; 469886-82-6; 469886-83-7; 469886-84-8; 469886-85-9; 469886-86-0; 469886-87-1; 469886-88-2; 469886-89-3; 469886-90-6; 469886-91-7; 469886-92-8; 469886-94-0; 469886-95-1; 469886-97-3; 469886-98-4; 469886-99-5; 469887-00-1; 469887-01-2; 469887-02-3; 469887-03-4; 469887-04-5; 469887-05-6 Role: AGR (Agricultural use), BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study), USES (Uses) (structure-toxicity relationships of organophosphorus insecticides)
Citations: 1) MacRae, I; Rev Environ Contam Toxicol 1989, 109, 1
Citations: 2) Young, A; ACS Symposium Series 1987, 336, 10
Citations: 3) Sun, Y; Residue Rev 1985, 94, 101
Citations: 4) Bazoui, H; Phy Chem News 2002, 6, 124
Citations: 5) Bazoui, H; J Mol Mod 2002, 8, 1

Citations: 6) Livingstone, D; Pest Sci 1989, 27, 287
Citations: 7) Nendza, M; Chemsphere 1991, 22, 613
Citations: 8) Vighi, M; Sci Total environ 1991, 109/110, 605
Citations: 10) Meister, R; Farm chemical handbook 1987, 42
Citations: 11) Thomson, T; Agricultural Chemicals Book I : Insecticides 1972, 160
Citations: 12) Nys, G; Eur J Med Chem-Ther 1974, 4, 361
Citations: 14) Yokohama, T; J Am Chem Soc 1976, 98, 3233
Citations: 15) Weast, R; Handbook of Chemistry and Physics, first Edition 1988, 318
Citations: 16) Bondi, A; J Phys Chem 1964, 68, 441
Citations: 17) Zakarya, D; Tetrahedron Lett 1994, 35, 2345
Citations: 18) Randic, M; J Chem Inf Comput Sci 1984, 24, 164
Citations: 20) Tronchet, J; Eur J Med Chem 1997, 32, 279
Citations: 21) Wold, S; Quant Struct Act Relat 1991, 10, 191 Structure-toxicity relationships were studied for a set of 67 insecticides by means of multiple linear regression (MLR). The values of log LD50 (LD 50, oral, rat) of the studied compds. were well correlated with the descriptors encoding the chem. structures. Considering the pertinent descriptors, a correlation coeff. of 0.87 (s = 0.42, n = 67) was obtained for the MLR model. The present study suggests a quant. interpretation of the structure-toxicity relationships which otherwise cannot be explained within the framework of the insecticides. This information is pertinent to the further design of new insecticides. [on SciFinder (R)] 1114-3800 insecticide/ organophosphorus/ structure/ toxicity/ relationship

1432. Zahouily, Mohamed, Rhihil, Abdallah, Bazoui, Halima, Sebti, Said, and Zakarya, Driss (2002). Structure-toxicity relationships study of a series of organophosphorus insecticides. *Journal of Molecular Modeling [online computer file]* 8: 168-172.
Chem Codes: Chemical of Concern: PSM Rejection Code: MODELING.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2002:611053
Chemical Abstracts Number: CAN 137:290281
Section Code: 5-4
Section Title: Agrochemical Bioregulators
Document Type: Journal; Online Computer File
Language: written in English.
Index Terms: Structure-activity relationship (insecticidal; of organophosphorus insecticides); Insecticides (organophosphorus; structure-toxicity relationships study of series of organophosphorus insecticides); Simulation and Modeling (structure-toxicity relationships of organophosphorus insecticides)
CAS Registry Numbers: 52-68-6; 55-38-9; 60-51-5; 62-73-7; 121-75-5; 122-14-5; 298-02-2; 298-03-3; 298-04-4; 300-76-5; 301-12-2; 333-41-5; 470-90-6; 500-28-7; 640-15-3; 732-11-6; 786-19-6; 919-86-8; 961-11-5; 2463-84-5; 3079-05-8; 3851-88-5; 3907-41-3; 5314-03-4; 10105-31-4; 21154-60-9; 21192-94-9; 24262-88-2; 29232-93-7; 32522-77-3; 33025-57-9; 36765-94-3; 52234-58-9; 52337-88-9; 95389-90-5; 98139-30-1; 469886-74-6; 469886-75-7; 469886-76-8; 469886-77-9; 469886-78-0; 469886-79-1; 469886-80-4; 469886-81-5; 469886-82-6; 469886-83-7; 469886-84-8; 469886-85-9; 469886-86-0; 469886-87-1; 469886-88-2; 469886-89-3; 469886-90-6; 469886-91-7; 469886-92-8; 469886-94-0; 469886-95-1; 469886-97-3; 469886-98-4; 469886-99-5; 469887-00-1; 469887-01-2; 469887-02-3; 469887-03-4; 469887-04-5; 469887-05-6 Role: AGR (Agricultural use), BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study), USES (Uses) (structure-toxicity relationships of organophosphorus insecticides)
Citations: 1) Young, A; ACS symposium series 1987, 336, 10
Citations: 2) Devillers, J; Environmental chemistry and toxicology 1990, 181
Citations: 3) Bazoui, H; J Mol Mod 2002
Citations: 4) Livingstone, D; Res Pest Sci 1989, 27, 287
Citations: 5) Nendza, M; Chemsphere 1991, 22, 613
Citations: 6) Vighi, M; Sci Total Environ 1991, 109/110, 605

Citations: 7) Buechel, K; Chemistry of pesticides 1983, 48
Citations: 8) Meister, R; Farm chemical handbook 1987, 42
Citations: 9) Thomson, T; Agricultural chemicals book 1 1972, 160
Citations: 10) Nys, G; Eur J Med Chem Ther 1974, 4, 361
Citations: 11) Pauling, L; The nature of chemical bond 3rd edn 1960, 85
Citations: 12) Yokohama, T; J Am Chem Soc 1976, 98, 3233
Citations: 13) Weast, R; Handbook of chemistry and physics 1st edn 1988, E318
Citations: 14) Bondi, A; J Phys Chem 1964, 68, 441
Citations: 15) Zakarya, D; Tetrahedron Lett 1994, 35, 2345
Citations: 16) Randic, M; J Chem Inf Comput Sci 1984, 24, 164
Citations: 17) Tetko, I; J Chem Inf Comput Sci 1996, 36, 794
Citations: 18) Wold, S; Quant Struct Act Relat 1991, 10, 191
Citations: 20) Rumhelart, D; Nature 1986, 323, 533
Citations: 21) So, S; J Med Chem 1992, 35, 3201
Citations: 22) Defernez, M; Analyst 1999, 124, 1675
Citations: 23) Chastrette, M; Eur J Med Chem 1994, 29, 343
Citations: 24) Cherquaoui, D; New J Chem 1998, 22, 839 Structure-toxicity relationships were studied for a set of 47 insecticides by means of multiple linear regression (MLR) and artificial neural network (ANN). A model with three descriptors, including shape surface [S(R2)], hydrogen-bonding acceptors [HBA(R2)] and molar refraction [MR(R1)], showed good statistics both in the regression (4 = 0.875, s = 0.417 and q2 = 0.675) and artificial neural network model with a configuration of [3-5-1](r=0.966, s=0.200 and q2=0.647). The statistics for the prediction on toxicity [log LD50 (LD 50, oral, rat)] in the test set of 20 organophosphorus insecticides derivs. is (r=0.849, s=0.435) and (r=0.748, s=0.576) for MLR and ANN resp. The model descriptors indicate the importance of molar refraction and shape contributions toward toxicity of organophosphorus insecticides derivs. used in this study. This information is pertinent to the further design of new insecticides. [on SciFinder (R)] 0948-5023 insecticide/ organophosphorus/ structure/ toxicity/ relationship

1433. Zhang, Minghua, Wilhoit, Larry, and Geiger, Chris (2004). Assessing dormant season organophosphate use in California almonds. *Agriculture, Ecosystems & Environment* 105: 41-58.
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2004:1047306
Chemical Abstracts Number: CAN 143:224102
Section Code: 5-4
Section Title: Agrochemical Bioregulators
CA Section Cross-References: 61
Document Type: Journal
Language: written in English.
Index Terms: Bacillus thuringiensis; Bacillus thuringiensis aizawai; Bacillus thuringiensis kurstaki; Prunus amygdalus; Rain; Surface waters; Water pollution (assessing dormant season organophosphate use in California almonds); Hydrocarbon oils; Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU (Occurrence), USES (Uses) (assessing dormant season organophosphate use in California almonds); Petroleum products (distillates; assessing dormant season organophosphate use in California almonds); Insecticides (organophosphorus; assessing dormant season organophosphate use in California almonds)
CAS Registry Numbers: 56-38-2 (Parathion); 60-51-5 (Dimethoate); 62-73-7 (Ddvp); 86-50-0 (Azinphos); 121-75-5; 298-00-0; 298-04-4 (Disulfoton); 300-76-5 (Naled); 333-41-5; 732-11-6 (Phosmet); 950-37-8 (Methidathion); 2310-17-0 (Phosalone); 5598-13-0 (Methyl Chlorpyrifos); 13194-48-4 (Ethoprop); 22224-92-6 (Fenamiphos); 52645-53-1 (Permethrin); 66230-04-4 (Esfenvalerate); 68359-37-5 (Cyfluthrin); 102851-06-9 (Tau-fluvalinate) Role: AGR (Agricultural use), BSU (Biological study, unclassified), POL (Pollutant), BIOL (Biological study), OCCU

(Occurrence), USES (Uses)   (assessing dormant season organophosphate use in California almonds)
Citations: Almond Board; Almond Industry Position Report, http://www.almondboard.com 2001
Citations: Bentley, W; Specialized monitoring of almond BIOS orchards in Merced and Stanislaus Counties 1996
Citations: California Department of Food and Agriculture (CDFA); Agricultural Resource Directory 2001
Citations: California Department of Pesticide Regulation (CDPR); Pesticide Use Reporting: An Overview of California's Unique Full Reporting System 2000
Citations: California Department of Pesticide Regulation (CDPR); Summary of Pesticide use Report Data of 2000 2001
Citations: California Department of Pesticide Regulation (CDPR); http://www.cdpr.ca.gov/dprgrants.htm 2002
Citations: California Tree Fruit Agreement; Development of an integrated system for controlling San Jose scale, peach twig borer, and oriental fruit moth in clingstone canning and fresh shipping peaches, plums and nectarines, http://www.cdpr.ca.gov/docs/empm/alliance/0102finl.htm 2003, Agreement No 01-0191C
Citations: California Irrigation Management System (CIMIS); http://www.cimis.water.ca.gov 2002
Citations: Committee on the Future Role of Pesticide in US Agriculture; The Future Role of Pesticide in US Agriculture 2000
Citations: Community Alliance with Family Farmers and Almond Board; http://www.caff.org/caff/publications/index.html 1995
Citations: Domagalski, J; J Environ Qual 1997, 26, 454
Citations: Dubrovsky, N; US Geological Survey Circular 1998, 1159, 1992
Citations: Ehler, L; Issues Sci Technol 2000, 6, 361
Citations: Epstein, L; Calif Agr 2000, 54, 14
Citations: Epstein, L; Agr Ecosyst Environ 2001, 83, 111
Citations: Epstein, L; Annu Rev Phytophathol 2002, 41, 23.1
Citations: Flint, M; Calif Agr 1998, 52, 27
Citations: Flint, M; Calif Agr 1993, 47, 4
Citations: Grieshop, J; Calif Agr 1992, 46, 4
Citations: Guo, L; Environmental Monitoring 2003, EH03-04
Citations: Hendricks, L; Calif Agr 1995, 49, 5
Citations: Larson, S; J Am Water Resour Assoc 2001, 37, 1349
Citations: McClure, D; Sacramento and feather river diazinon total maximum daily load report 2002
Citations: National Research Council; Ecologically based pest management: new solutions for a new century 1996
Citations: Rice, R; Calif Agr 1972, 26, 14
Citations: Ross, L; Distribution and mass loading of insecticides in the San Joaquin River, California Spring 1991 and 1992 1999, EH01-01
Citations: Ruano, F; Agr Ecosyst Environ 2003, 97, 353
Citations: Spurlock, F; Analysis of Diazinon and chlorpyrifos surface water monitoring and acute toxicity bioassay data, 1991-2001 2002, EH01-01
Citations: Swezey, S; Calif Agr 2001, 54, 26
Citations: Thrupp, L; ASA Special Publication 2001, 64, 155
Citations: University of California Statewide Integrated Pest Management (UCIPM); UC Publication 1985, 3308
Citations: University of California Statewide Integrated Pest Management (UCIPM); UC Pest Management Guidelines--Peach Twig Borer, http://www.ipm.ucdavis.edu/PMG/r602300611.html 2002
Citations: University of California Sustainable Agriculture Research and Education Program (UCSAREP); http://www.cdpr.ca.gov/dprgrants.htm 2002
Citations: United States Department of Agriculture-Economic Research Service; Agricultural resource management study (ARMS) 2001

Citations: Werner, I; Bull Environ Contam Toxicol 2002, 68, 29
Citations: Wilhoit, L; Pesticide use analysis and trends from 1991 to 1996 1999, California Environmental Protection Agency PM99-01
Citations: Wilhoit, L; Data Quality of California's Pesticide use Report 2001, PM01-02
Citations: Zalom, F; Environ Entomol 2001, 30, 70
Citations: Zhang, M; Proceedings of the Sustainable Agriculture Partnership Conference 2001
Organophosphate (OP) pesticides were recommended during the dormant season to control overwintering insects such as peach twig borer, San Jose scale, European red mite, and brown mite in California almond and stone fruit orchards. However, since 1990, dormant OP use had fallen under increased scrutiny due to surface water contamination concerns. Studies have shown pos. correlation between OP use and residue load in surface water. The purpose of this study is to assess the trends and regional patterns of OP use in almond orchards, and to identify factors that may have influenced those trends, including weather, pest pressure, and use of alternatives to OP such as pyrethroid, dormant oils, and Bacillus thuringiensis (Bt) for the assessment of the impacts to surface water quality. Pesticide use data from the California Department of Pesticide Regulation were analyzed. Regression analyses were used to assess trends from 1992 to 2000, and a geog. information system (GIS) was used to visualize the spatial variation in pesticide use. Results from this study indicated that, statewide, dormant OP use decreased while the use of some alternatives, such as dormant pyrethroid, no dormant insecticides, and in-season pyrethroid, oil alone, and Bt, increased in the last 9 years. The significant decreasing trend of OP use was obsd. for the measures of kilogram per ha crop planted, percentage of total planted ha treated, and nos. of growers who applied dormant OP. The redn. of dormant OP use appeared in all major almond-growing counties. Correlation analyses revealed that more rain was assocd. with less dormant OP use. A higher percent of almond damage, or rejects, was related to higher OP use in the following dormant season and in-season periods. However, the effects of weather and percent of nut rejects can only explain small portion of the variations in dormant OP use. Therefore, in addn. to weather and pest pressures, economic pressures and various outreach and extension programs may also have played a role in encouraging farmers to reduce their use of dormant OP. [on SciFinder (R)]
0167-8809 organophosphate/ insecticide/ almond/ dormant/ season

1434. Zhao, Jianguo and Lubman, David M (1993). Detection of liquid injection using an atmospheric pressure ionization radiofrequency plasma source. *Analytical Chemistry* 65: 866-76.
<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1993:115937
Chemical Abstracts Number: CAN 118:115937
Section Code: 80-2
Section Title: Organic Analytical Chemistry
CA Section Cross-References: 2, 5, 9, 50, 64, 73
Document Type: Journal
Language: written in English.
Index Terms: Pharmaceutical analysis (atm. pressure ionization mass spectrometry for, using radiofrequency plasma source); Antibiotics; Explosives; Pesticides (detection of, by atm. pressure ionization mass spectrometry using radiofrequency plasma source); Catecholamines; Peptides; Steroids; Vitamins Role: ANT (Analyte), ANST (Analytical study) (detection of, by atm. pressure ionization mass spectrometry using radiofrequency plasma source); Mass spectrometry (atm.-pressure, using radiofrequency plasma source); Samples (liq., injection of, using atm. pressure ionization radiofrequency plasma source in mass spectrometric anal.); Amino acids Role: ANT (Analyte), ANST (Analytical study) (phenylthiohydantoin, detection of, by atm. pressure ionization mass spectrometry using radiofrequency plasma source); Ion sources (radio-frequency, for org. samples introduced by liq. injection into atm. pressure ionization mass spectrometry)
CAS Registry Numbers: 50-28-2 (Estradiol); 50-81-7 (Ascorbic acid); 51-41-2 (Norepinephrine); 51-55-8 (Atropine); 55-10-7 (Vanilmandelic acid); 57-47-6 (Eserine); 57-88-5 (Cholesterol); 58-

08-2 (Caffeine); 58-74-2 (Papaverine); 59-67-6 (Nicotinic acid); 59-92-7 (DOPA); 60-54-8 (Tetracycline); 61-12-1 (Dibucaine hydrochloride); 61-33-6; 61-76-7 (Phenylephrine hydrochloride); 65-23-6 (Pyridoxine); 67-03-8 (Thiamine hydrochloride); 69-53-4 (Ampicillin); 73-31-4 (Melatonin); 76-42-6 (Oxycodone); 76-57-3 (Codeine); 113-73-5 (Gramicidin S); 115-37-7 (Thebaine); 121-75-5 (Malathion); 121-82-4 (RDX); 122-14-5 (Fenitrothion); 137-58-6 (Lidocaine); 153-98-0 (Serotonin hydrochloride); 299-84-3 (Ronnel); 306-08-1 (Homovanillic acid); 333-41-5 (Diazinon); 549-18-8; 732-11-6 (Phosmet); 950-37-8 (Methidathion); 1011-74-1 (Normetanephrine hydrochloride); 1095-90-5 (Methadone hydrochloride); 2578-81-6; 2642-71-9 (Azinphos-ethyl); 2667-02-9; 2691-41-0 (HMX); 2955-38-6 (Prazepam); 4306-24-5; 5156-22-9; 6234-26-0; 7390-22-9; 13116-21-7; 22224-92-6 (Fenamiphos); 23576-42-3; 24934-91-6 (Chlormephos); 29588-04-3; 29635-99-2 (PTH-proline); 40204-87-3; 58822-25-6; 59005-83-3; 60254-83-3; 65757-10-0 Role: ANT (Analyte), ANST (Analytical study) (detection of, by atm. pressure ionization mass spectrometry using radiofrequency plasma source); 53-16-7 (Estrone); 53-21-4 (Cocaine hydrochloride); 60-51-5 (Dimethoate); 98-92-0 (Nicotinamide); 118-96-7 (TNT); 2001-95-8 (Valinomycin); 14857-82-0; 29635-84-5 (PTH-serine) Role: ANT (Analyte), ANST (Analytical study) (detection of, by atm. pressure ionization mass spectrometry using radiofrequency plasma source, detection limit for); 51-67-2 (Tyramine) Role: ANST (Analytical study) (detn., by atm. pressure ionization mass spectrometry using radiofrequency plasma source, detection limit for) An atm. pressure rf plasma source which operates in a variety of different buffer gases has been developed as an ionization method for org. samples introduced by liq. injection into atm. pressure ionization mass spectrometry (API/MS). The rf source can operate in He at <1 W of load power at 165 kHz. It can also be sustained in Ar, N2, air, and CO2 at a load power of <15 W. In most cases studied, the protonated mol., MH+, is obsd. with little or no fragmentation even under the relatively high current conditions of the discharge. However, using increasingly higher acceleration voltages between the skimmers in the differentially pumped region between atm. pressure and high vacuum, one can induce fragmentation via collision-induced dissocn. This can be assisted in these expts. via the use of a heavy buffer gas. The detection limits achieved for rf/API plasma detection are typically in the low femtomole region for small org. mols. including neurotransmitters, PTH-amino acids, steroids, drugs, pesticides, and explosives. The detection can be performed with quantitation over at least 4 orders of magnitude. [on SciFinder (R)] 0003-2700 source/ atm/ pressure/ ionization/ mass/ spectrometry;/ atm/ pressure/ ionization/ radiofrequency/ plasma/ source;/ neurotransmitter/ detn/ API/ mass/ spectrometry;/ amino/ acid/ detn/ API/ mass/ spectrometry;/ steroid/ detn/ API/ mass/ spectrometry;/ pesticide/ detn/ API/ mass/ spectrometry;/ explosive/ detn/ API/ mass/ spectrometry

1435. Zhao, Jianguo, Zhu, Jianzhong, and Lubman, David M (1992). Liquid sample injection using an atmospheric pressure direct current glow discharge ionization source. *Analytical Chemistry* 64: 1426-33.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 1992:419565
Chemical Abstracts Number: CAN 117:19565
Section Code: 80-2
Section Title: Organic Analytical Chemistry
CA Section Cross-References: 2, 5, 9, 50, 64, 73
Document Type: Journal
Language: written in English.
Index Terms: Pharmaceutical analysis (atm. pressure glow discharge ionization mass spectrometry for); Ion sources (atm. pressure glow discharge, for detection of small org. mols. by mass spectrometry); Explosives; Pesticides (detection of, by atm.-pressure glow discharge ionization mass spectrometry); Mass spectrometry (atm.-pressure, sputtering, for detection of small org. mols.); Samples (liq., injection of, using atm.-pressure d.c. glow discharge ionization source in mass spectrometric anal.); Neurohormones Role: ANT (Analyte), ANST (Analytical study) (neurotransmitters, detection of, by atm.-pressure glow discharge ionization mass

spectrometry); Amino acids Role: ANT (Analyte), ANST (Analytical study) (phenylthiohydantoin, detection of, by atm.-pressure glow discharge ionization mass spectrometry); Atomizers (pneumatic, atm.-pressure glow discharge ionization source contg., for liq. sample injection in mass spectrometric anal.)
CAS Registry Numbers: 50-06-6 (Phenobarbital); 50-89-5 (Thymidine); 52-85-7 (Famphur); 53-21-4; 56-38-2 (Parathion); 58-61-7 (Adenosine); 58-63-9 (Inosine); 58-82-2 (Bradykinin); 58-96-8 (Uridine); 60-18-4 (L-Tyrosine); 61-54-1 (Tryptamine); 73-22-3 (Tryptophan); 73-24-5 (Adenine); 73-31-4 (Melatonin); 76-57-3 (Codeine); 87-51-4 (Indole-3-acetic acid); 121-75-5 (Malathion); 121-82-4 (RDX); 299-84-3 (Ronnel); 439-14-5 (Diazepam); 549-18-8; 640-15-3 (Thiometon); 721-90-4; 732-11-6 (Phosmet); 947-02-4 (Phosfolan); 2010-15-3; 2577-40-4; 2595-54-2 (Mecarbam); 2642-71-9 (Azinphos-ethyl); 2691-41-0 (HMX); 4333-19-1; 7390-22-9; 23560-59-0 (Heptenophos); 23576-42-3; 24017-47-8 (Triazophos); 24934-91-6 (Chlormephos); 29588-04-3; 51600-11-4; 58569-55-4; 60254-83-3; 74135-04-9; 141784-05-6 Role: ANT (Analyte), ANST (Analytical study) (detection of, by atm.-pressure glow discharge ionization mass spectrometry); 60-51-5; 118-96-7 (TNT); 1095-90-5; 19786-36-8; 29635-84-5 (PTH-serine) Role: ANT (Analyte), ANST (Analytical study) (detection of, by atm.-pressure glow discharge ionization mass spectrometry, detection limit for); 51-67-2 (Tyramine) Role: ANT (Analyte), ANST (Analytical study) (detn. of, by atm.-pressure glow discharge ionization mass spectrometry, detection limit for) An atm. pressure d.c. glow discharge in helium has been used as an ionization source for org. samples introduced by liq. injection into atm. pressure ionization mass spectrometry (API/MS). The glow source operates typically in the range up to 1 mA of current at less than 1 kV, although the source can be operated up to a discharge current of 10 mA. Even at the high current used in this work, the protonated mol., MH+, is obsd. with little or no fragmentation for many of the samples studied. The detection limits achieved for API glow discharge detection are typically in the low femtomole region for small org. mols. including small biol. neurotransmitters, drugs, pesticides, phenylthiohydantoin-substituted amino acids, and explosives. A detection limit of .apprx.2 pg has been achieved for tyramine with linear quantitation over at least 3 orders of magnitude. The sensitivity in these expts. has been further improved by optimization of the skimmer-interface system and the liq. injection/nebulization design. [on SciFinder (R)] 0003-2700 atm/ pressure/ ionization/ mass/ spectrometry;/ glow/ discharge/ ionization/ mass/ spectrometry;/ neurotransmitter/ detection/ glow/ discharge/ mass/ spectrometry;/ drug/ detection/ glow/ discharge/ mass/ spectrometry;/ pesticide/ detection/ glow/ discharge/ mass/ spectrometry;/ explosive/ detection/ glow/ discharge/ mass/ spectrometry;/ amino/ acid/ glow/ discharge/ mass/ spectrometry;/ tyramine/ detn/ glow/ discharge/ mass/ spectrometry

1436. Zhu, X. Y. (2004). Pollen and Seed Morphology of Gueldenstaedtia and Tibetia (Leguminosae) - With a Special Reference to the Taxonomic Significance. *Nordic Journal of Botany, 23 (3) pp. 373-384, 2004.*
Chem Codes: Chemical of Concern: PSM Rejection Code: SURVEY.

ISSN: 0107-055X
Abstract: The pollen morphology of Gueldenstaedtia gansuensis, G. gracilis, G. henryi, G. monophylla, G. mutiflora, G. stenophylla, and G. verna and Tibetia liangshanensis, T. tongolensis, T. yadongensis, T. coelestis, and T. yunnanensis are reported for the first time. The seed morphology of G. gracilis, G. maritima, G. monophylla, G. mutiflora, G. taihangensis, and G. verna and T. coelestis, T. himalaica, T. yunnanensis, and T. yadongensis are firstly described here. In pollen morphology, the differences of pollen grains of Gueldenstaedtia and Tibetia are as follows: Gueldenstaedtia with pollen grains 3-colporate, psilate, and shapes spheroidal, sometimes subprolate, prolate or oblong; and Tibetia with pollen grains 3- and 4-colporate, perforate, shapes spheroidal, sometimes subprolate or prolate. These results, combined with the data of the basic chromosome number x=7 of Gueldenstaedtia and x=8 of Tibetia, support that the two genera should be recognized as two distinct genera, which are consistent with their morphological characters: Gueldenstaedtia with 2 upper lobes of calyx free, stipules free, adnate to petiole, and Tibetia with 2 upper lobes of calyx connate, stipules connate and opposite to leaves. In Tibetia, two types of pollen grains, 3- and 4-colporate pollen grains, are found. Regarding seed

morphology: Gueldenstaedtia has circular depression, irregular circular depression or irregular circular reticulation on the surface; Tibetia has smooth surface. The differences in seed morphology of the two genera also support that they should be kept separate. The pollen morphology supports that G. gansuensis, G. gracilis, G. multiflora, G. stenophylla, and G. verna should be reduced into one species consistent with their morphological characteristics. The pollen grains of G. henryi are different from those of the other species in having wide colpi.
18 refs.
Language: English
English
Publication Type: Journal
Publication Type: Article
Country of Publication: Denmark
Classification: 92.14.1.5 DIVERSITY: Taxonomy, Systematics and Evolutionary Studies: Morphological taxonomy
Classification: 92.6.1 STRUCTURE: Anatomy and Morphology
Classification: 92.7.3.2 DEVELOPMENT: Reproductive Development (Spermatophytes): Pollen
Subfile: Plant Science

1437. Zimmerman, William Thomas (20030403). Preparation of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides. 46 pp.
Chem Codes: Chemical of Concern: PSM Rejection Code: PATENT.

Copyright: Copyright (C) 2007 ACS on SciFinder (R))
Database: CAPLUS
Accession Number: AN 2003:261833
Chemical Abstracts Number: CAN 138:287669
Section Code: 28-8
Section Title: Heterocyclic Compounds (More Than One Hetero Atom)
CA Section Cross-References: 5
Coden: PIXXD2
Index Terms: Arthropoda (arthropodicides; prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides); Bacillus thuringiensis; Baculoviridae; GABA antagonists; Sodium channel blockers (combined administration; prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides); Fungi (entomophagous, combined administration; prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides); Juvenile hormones Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (mimics, combined administration; prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides); Insecticides (neonicotinoid, combined administration; prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides); Insecticides (prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides); Pyrethrins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (pyrethroids, combined administration; prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides); Toxins Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (d-endotoxins, combined administration; prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides)
CAS Registry Numbers: 504423-33-0P; 504423-34-1P; 504423-35-2P Role: AGR (Agricultural use), BSU (Biological study, unclassified), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses) (claimed compd.; prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides); 52-68-6 (Trichlorfon); 56-38-2 (Parathion); 60-51-5 (Dimethoate); 72-43-5 (Methoxychlor); 83-79-4 (Rotenone); 86-50-0 (Azinphos-methyl); 108-62-3 (Metaldehyde); 115-29-7 (Endosulfan); 115-32-2 (Dicofol); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 333-41-5 (Diazinon); 510-15-6 (Chlorobenzilate); 732-11-6 (Phosmet); 944-22-9 (Fonophos); 950-37-8 (Methidathion); 1563-66-2 (Carbofuran); 2227-17-0 (Dienochlor); 2310-17-0 (Phosalone); 2312-35-8 (Propargite); 2439-01-2 (Chinomethionat); 2921-88-2 (Chlorpyrifos); 5598-13-0 (Chlorpyrifos-methyl); 6923-22-4 (Monocrotophos); 10265-92-6 (Methamidophos); 11141-17-6 (Azadirachtin); 13071-79-9

(Terbufos); 13121-70-5 (Cyhexatin); 13171-21-6 (Phosphamidon); 13356-08-6 (Fenbutatin oxide); 16752-77-5 (Methomyl); 22224-92-6 (Fenamiphos); 22248-79-9 (Tetrachlorvinphos); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 25311-71-1 (Isofenphos); 30560-19-1 (Acephate); 33089-61-1 (Amitraz); 35367-38-5 (Diflubenzuron); 35400-43-2 (Sulprofos); 39515-41-8 (Fenpropathrin); 40596-69-8 (Methoprene); 41198-08-7 (Profenofos); 51630-58-1 (Fenvalerate); 52207-48-4 (Thiosultap-sodium); 52315-07-8 (Cypermethrin); 52645-53-1 (Permethrin); 52918-63-5 (Deltamethrin); 58842-20-9 (Nithiazine); 59669-26-0 (Thiodicarb); 62850-32-2 (Fenothiocarb); 63837-33-2 (Diofenolan); 64628-44-0 (Triflumuron); 66215-27-8 (Cyromazine); 66230-04-4 (Esfenvalerate); 66841-25-6 (Tralomethrin); 68085-85-8 (Cyhalothrin); 68359-37-5 (Cyfluthrin); 69327-76-0 (Buprofezin); 70124-77-5 (Flucythrinate); 71422-67-8 (Chlorfluazuron); 71751-41-2 (Abamectin); 72490-01-8 (Fenoxycarb); 73989-17-0 (Avermectin); 78587-05-0 (Hexythiazox); 79538-32-2 (Tefluthrin); 80060-09-9 (Diafenthiuron); 82657-04-3 (Bifenthrin); 83121-18-0 (Teflubenzuron); 86479-06-3 (Hexaflumuron); 91465-08-6 (l-Cyhalothrin); 95737-68-1 (Pyriproxyfen); 96489-71-3 (Pyridaben); 101463-69-8 (Flufenoxuron); 102851-06-9 (Tau-fluvalinate); 103055-07-8 (Lufenuron); 111988-49-9 (Thiacloprid); 112226-61-6 (Halofenozide); 112410-23-8 (Tebufenozide); 116714-46-6 (Novaluron); 119168-77-3 (Tebufenpyrad); 119791-41-2 (Emamectin); 120068-37-3 (Fipronil); 120928-09-8 (Fenazaquin); 122453-73-0 (Chlorfenapyr); 123312-89-0 (Pymetrozine); 134098-61-6 (Fenpyroximate); 135410-20-7 (Acetamiprid); 138261-41-3 (Imidacloprid); 143807-66-3 (Chromafenozide); 149877-41-8 (Bifenazate); 153233-91-1 (Etoxazole); 153719-23-4 (Thiamethoxam); 158062-67-0 (Flonicamid); 161050-58-4 (Methoxyfenozide); 168316-95-8 (Spinosad); 173584-44-6 (Indoxacarb); 179101-81-6 (Pyridalyl); 181587-01-9 (Ethiprole); 210880-92-5 (Clothianidin) Role: AGR (Agricultural use), BSU (Biological study, unclassified), BIOL (Biological study), USES (Uses) (combined administration; prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides); 75-31-0 (Isopropylamine); 421-50-1; 2402-77-9 (2,3-Dichloropyridine); 4389-45-1 (2-Amino-3-methylbenzoic acid); 4755-77-5 (Ethyl chlorooxoacetate); 20154-03-4 (3-Trifluoromethylpyrazole); 22841-92-5 Role: RCT (Reactant), RACT (Reactant or reagent) (prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides); 66176-17-8P; 362639-62-1P; 438450-38-5P; 438450-39-6P; 499790-43-1P; 499790-45-3P; 499790-46-4P; 500011-82-5P; 504423-36-3P Role: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent) (prepn. of pyrazolylcarbonyl pyridinyl anthranilamides as arthropodicides)
PCT Designated States: Designated States W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
PCT Reg. Des. States: Designated States RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, ML, MR, NE, SN, TD, TG.
Patent Application Country: Application: WO
Priority Application Country: US
Priority Application Number: 2001-324011
Priority Application Date: 20010921
Citations: Harrison, C; US 5474998 A 1995
Citations: Du Pont; WO 9212133 A 1992 Title compds. [I; R1, R2 = H, alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, haloalkenyl, haloalkynyl, halo, cyano, alkoxy, haloalkoxy, alkylthio, alkylsulfonyl, trialkylsilyl, etc.; R3 = H, alkyl, haloalkyl, halo, cyano, NO2, alkoxy, haloalkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, haloalkylthio, alkoxycarbonyl, etc.; R4 = H, (substituted) alkyl, alkenyl, alkynyl, cycloalkyl; R5 = H, alkyl, alkenyl, alkynyl, cycloalkyl, haloalkyl, haloalkenyl, haloalkynyl, halocycloalkyl, halo, cyano, CO2H, CONH2, NO2, OH, alkoxy, haloalkoxy, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylamino, alkylcarbonyl, alkoxycarbonyl, trialkylsilyl, etc.], were prepd. Thus, 1-(3-chloro-2-pyridinyl)-3-trifluoromethyl-1H-pyrazole-5-carboxylic acid (prepn. given) was stirred with (COCl)2 and cat. DMF in CH2Cl2 to give crude acid chloride, which was refluxed 3 h with 8-methyl-2H-3,1-benzoxazine-2,4(1H)-dione (prepn. given) and pyridine in MeCN to give 2-[1-(3-chloro-2-pyridinyl)-3-trifluoromethyl-1H-pyrazol-5-yl]-8-methyl-4H-3,1-benzoxazin-4-one. The latter was refluxed 1.5 h with Me2CHNH2 to give 1-

(3-chloro-2-pyridinyl)-N-[2-methyl-6-[[(1-methylethyl)amino]carbonyl]phenyl]-3-trifluoromethyl-1H-pyrazole-5-carboxamide. This was stirred overnight with DBU in MeCN to give N-(3-chloro-2-pyridinyl)-N-[2-methyl-6-[[(1-methylethyl)amino]carbonyl]phenyl]-5-trifluoromethyl-1H-pyrazole-3-carboxamide. The latter at 250 ppm on radishes preinfested with Plutella xylostella gave ?10% feeding damage. [on SciFinder (R)] C07D401-12. A01N037-22. pyrazolylcarbonyl/ pyridinyl/ anthranilamide/ prepn/ arthropodicide;/ insecticide/ pyridinylaminocarbonylphenylpyrazolecarboxamide/ prepn

1438. Ziskind, L. A. and Roslavtseva, S. A. (Chuvstvitel'nost' K Pestitsidam Klopa Podizusa - Khishchnika Koloradskogo Zhuka. [Sensitivity to Pesticides of Colorado Potato Beetle Predator Podisus.]. *Khim. Sel'sk. Khoz. 19(4): 51-52 1981 (6 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. The contact toxicity of the insecticides chlorofos (trichlorfon), dilor, and phthalofos (phosmet) and the fungicide polycarbazine to Colorado potato beetle and its predator Podisus maculiventris Say was studied. Chlorofos was found to be more toxic to the predator than to Colorado beetle (LC50. were 0.28 and 12.6 mug/g, respectively). Dilor toxicity to Podisus was low (195 mug/g, compared with 7.08 for Colorado beetle). The LC50 of phthalofos for Podisus and Colorado beetle were 4.61 and 3.0 mug/g, respectively. Polycarbazine was extremely toxic to Podisus larvae. The indexes of selectivity of chlorofos, dilor, and phthalofos were 0.02, 22.0, and 1.20, respectively.
LANGUAGE: rus

1439. Zolotova, T. B. and Roslavtseva, S. A. (O Roli Mikrosomal'nykh Enzimov V Mekhanizme Razistentnosti Komnatiykh Mukh K Ftalofosy I Neopinaminy. [Role of Microsomal Enzymes in Mechanism of Resistance of House Flies to Phthalophos and Neopinamine.]. *Khim. Sel'sk. Khoz. 19(2): 44-46 1981 (14 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: NON-ENGLISH.

ABSTRACT: PESTAB. To evaluate the role of microsomal enzymes in detoxication of pesticides, the synergism between piperonyl butoxide (PPB) and the pesticides Neopinamine (tetramethrin), phthalophos (phosmet) and Orthene (acephate) was studied in sensitive (S) and resistant (R) house flies strains. Flies were treated with pure insecticide at various concentrations or with insecticide in mixture with PPB (1:5 ratio); the synergistic activity was estimated by the coefficient of combined effect (CCE). The CCE values for flies resistant to Neopinamine and Orthene were 12.0 and 4.0, respectively (compared with 3.6 and 2.2 for sensitive strains). There was a direct relationship between the degree of resistance to phthalophos and the synergistic effect. These findings indicate that esterase hydrolysis of thioester bond is the major pathway of detoxication in mildly resistant flies, while in highly resistant flies, hydroxylases were induced by phthalophos and inhibited by PPB.
LANGUAGE: rus

1440. Zongmao, C. and Haibin, W. (1997). Degradation of Pesticides on Plant Surfaces and Its Prediction - A Case Study on Tea Plant. *Environ.Monit.Assess.* 44 : 303-313.
Chem Codes: Chemical of Concern: BFT,DM,FNV,PMR,CYP,TCF,DDVP,MLN,FNT,DMT,PSM Rejection Code: FATE/REFS CHECKED/REVIEW.

1441. Zongmao, C. and Haibin, W. (1997). Degradation of Pesticides on Plant Surfaces and Its Prediction: a Case Study on Tea Plant. *Environmental monitoring and assessment* 44: 303-313.
Chem Codes: Chemical of Concern: PSM Rejection Code: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The degradative kinetics of pesticides on plant surface are characterized by an initial rapid degradation which follows a first-order kinetics, then transferred to a more slower degradative rate. The degradative process mainly consists of photodegradation, evaporation, rainfall elution and growth dilution. The influencing parameters of

these processes were investigated by using the tea plant as a case study. The predictive model of the initial concentration, photodegradation rate constant, evaporation rate constant, rainfall elution rate, growth dilution rate and the total degradation rate was discussed and verified in four locations situated in the range of 25ę-30ęN latitude, and acceptable results were obtained.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: PLANTS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Theaceae
LANGUAGE: eng

1442. Zongmao, C. and Xuefen, C. (1990). Chemical Control of Pests and Diseases in Tea Production in China: Progress and Strategy. *Trop.Agric.* 67: 363-367.
Chem Codes: Chemical of Concern: BFT,DM,CYP,FNV,PMR,FNT,TCF,DDT,PYN,CuS,RTN,HCCH,DCF,DDVP,PRN,DMT,MLN,PSM,AMZ,Folpet,TPM,CBD,BMY Rejection Code: REFS CHECKED/REVIEW.

1443. Zongmao, C. and Xuefen, C. (1990). Chemical Control of Pests and Diseases in Tea Production in China: Progress and Strategy. *Trop agric* 67: 363-367.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. The special agro-biological character and beverage purpose of the tea plant, Camellia sinesis, determine a strict selection of the pesticides used in tea production. Some guidelines including the efficiency, activity spectrum, toxicity, degradative rate on/in tea shoots, taint and extractive rate in the infusion are discussed. The major pests and diseases of the tea plant and the evolutional change of pesticides used in tea production in China are listed.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: FOOD ANALYSIS
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD-PROCESSING INDUSTRY
MESH HEADINGS: FOOD TECHNOLOGY
MESH HEADINGS: FOOD ADDITIVES/POISONING
MESH HEADINGS: FOOD ADDITIVES/TOXICITY
MESH HEADINGS: FOOD CONTAMINATION
MESH HEADINGS: FOOD POISONING
MESH HEADINGS: FOOD PRESERVATIVES/POISONING
MESH HEADINGS: FOOD PRESERVATIVES/TOXICITY
MESH HEADINGS: FRUIT
MESH HEADINGS: NUTS
MESH HEADINGS: TROPICAL CLIMATE
MESH HEADINGS: PLANT DISEASES
MESH HEADINGS: PREVENTIVE MEDICINE
MESH HEADINGS: HERBICIDES
MESH HEADINGS: PEST CONTROL
MESH HEADINGS: PESTICIDES
MESH HEADINGS: PLANTS
KEYWORDS: Biochemical Studies-General
KEYWORDS: Food Technology-Evaluations of Physical and Chemical Properties (1970-)
KEYWORDS: Food Technology-Preparation
KEYWORDS: Toxicology-Foods
KEYWORDS: Horticulture-Tropical and Subtropical Fruits and Nuts
KEYWORDS: Phytopathology-Disease Control

KEYWORDS: Pest Control
KEYWORDS: Theaceae
LANGUAGE: eng

1444. Zor'eva, R. D. (Chromatographic Determination of Phosmet in Soil and Washings. *Khim. Sel'sk. Khoz. 15(8): 19-20 1977 (2 references).*
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

ABSTRACT: PESTAB. A thin-layer chromatographic method for the determination of phosmet in soil and in washings obtained from plants with acetone and from skin with ether or acetone is described. Following extraction with acetone and reextraction with chloroform, the chloroform extract is evaporated, and the dry residue is dissolved in ether and applied to a LS 5/40 silica gel plate, using a 1/2 mixture of acetone and hexane as the solvent system. After drying, the plate is sprayed with a water-acetone mixture of bromphenol blue and silver nitrate. Phosmet appears in the form of dark blue spots. Quantitative determination is possible by assessing the intensity and size of the spots. The sensitivity amounts to 1 mug; the recovery rate is about 90%.
LANGUAGE: rus

1445. Zoun, P. E. F. and Spierenburg, Th. J (1989). Determination of cholinesterase-inhibiting pesticides and some of their metabolites in cases of animal poisoning using thin-layer chromatography. *Journal of Chromatography* 462: 448-53.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 1989:109518
Chemical Abstracts Number: CAN 110:109518
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (cholinesterase inhibition by, detn. of, in biol. materials, by TLC); Liver (cholinesterase of, pesticides detn. by TLC in relation to); Chromatography (pesticides detn. by, cholinesterase inhibition in relation to)
CAS Registry Numbers: 52-68-6 (Trichlorphon); 55-38-9 (Fenthion); 56-38-2 (Parathion); 56-72-4 (Coumaphos); 60-51-5 (Dimethoate); 62-73-7 (Dichlorvos); 63-25-2 (Carbaryl); 86-50-0 (Azinphosmethyl); 97-17-6 (Dichlofenthion); 101-21-3 (Chlorpropham); 114-26-1 (Propoxur); 116-06-3 (Aldicarb); 121-75-5 (Malathion); 122-14-5 (Fenitrothion); 128-04-1 (Sodam); 137-26-8 (Thiram); 298-00-0 (Parathionmethyl); 300-76-5 (Dibrom); 301-12-2 (Oxydemetonmethyl); 311-45-5 (Paraoxon); 321-54-0 (Coumaphoxon); 327-98-0 (Trichloronate); 330-54-1 (Diuron); 330-55-2 (Linuron); 333-41-5 (Diazinon); 338-45-4; 470-90-6 (Chlorphenvinphos); 640-15-3 (Thiometon); 732-11-6 (Phosmet); 759-94-4 (Eptam); 786-19-6 (Carbophenothion); 919-86-8 (Demeton-S-methyl); 944-21-8 (Fonofoxon); 944-22-9 (Fonofos); 950-35-6 (Paraoxonmethyl); 950-37-8 (Methidathion); 962-58-3 (Diazoxon); 1071-83-6 (Glyphosate); 1113-02-6 (Omethoate); 1134-23-2 (Cycloate); 1563-66-2 (Carbofuran); 1634-78-2 (Malaoxon); 1646-87-3 (Aldicarbsulfoxide); 1646-88-4 (Aldicarbsulfone); 1746-81-2 (Monolinuron); 1967-16-4 (Chlorbufam); 1982-47-4 (Chloroxuron); 2008-41-5 (Butylate); 2032-65-7 (Methiocarb); 2104-96-3 (Bromophos); 2275-23-2 (Vamidothion); 2303-16-4 (Diallate); 2303-17-5 (Triallate); 2310-17-0 (Phosalone); 2540-82-1 (Formothion); 2921-88-2 (Chlorpyriphos); 3060-89-7 (Metobromuron); 3337-71-1 (Asulam); 3383-96-8 (Temephos); 3689-24-5 (Sulfotep); 4824-78-6 (Bromophosethyl); 5598-15-2 (Chlorpyriphoxon); 7786-34-7 (Mevinphos); 10265-92-6 (Methamidophos); 13071-79-9 (Terbufos); 13171-21-6 (Phosphamidon); 13194-48-4 (Ethoprophos); 13360-45-7 (Chlorbromuron); 13457-18-6 (Pyrazophos); 14214-32-5 (Difenoxuron); 14816-18-3 (Phoxim); 15545-48-9 (Chlortoluron); 16118-49-3 (Carbetamide); 16672-87-0 (Ethephon); 16752-77-5 (Methomyl); 17040-19-6; 17804-35-2 (Benomyl); 18181-70-9 (Jodfenphos); 18691-97-9 (Methabenzthiazuron); 19937-59-8 (Metoxuron); 22248-79-9

(Tetrachlorvinphos); 22781-23-3 (Bendiocarb); 23103-98-2 (Pirimicarb); 23135-22-0 (Oxamyl); 23560-59-0; 24017-47-8 (Triazophos); 25311-71-1 (Isofenphos); 29232-93-7 (Pirimiphosmethyl); 29973-13-5; 30560-19-1 (Acephate); 31218-83-4 (Propetamphos); 34123-59-6 (Isoproturon); 34681-10-2 (Butocarboxim); 34681-23-7 (Butoxycarboxim); 35367-38-5 (Diflubenzuron); 35575-96-3 (Azamethiphos); 38260-54-7 (Etrimfos); 39196-18-4 (Thiofanox); 57018-04-9 (Tolclofosmethyl); 66063-05-6 (Pencycuron); 72490-01-8 (Fenoxycarb) Role: BIOL (Biological study) (cholinesterase inhibition by, detn. of, in biol. materials, by TLC); 9001-08-5 (Cholinesterase) Role: PROC (Process) (pesticides inhibition of, in TLC anal.) Cholinesterase-inhibiting pesticides were sepd. by high performance TLC and detected by spraying with bovine liver suspension (contg. cholinesterase) followed with an appropriate ester and chromogenic agent. Over 100 pesticides were sepd. and after detection by cholinesterase inhibition their hRf values were given. The method is applicable to detn. of pesticides in biol. samples (e.g., bird gizzards, baits, food, environmental samples). [on SciFinder (R)] 0021-9673 pesticides/ detn/ thin/ layer/ chromatog;/ cholinesterase/ inhibition/ pesticide/ detn/ TLC

1446. Zrostlikova, Jitka, Lehotay, Steven J., and Hajslova, Jana (2002). Simultaneous analysis of organophosphorus and organochlorine pesticides in animal fat by gas chromatography with pulsed flame photometric and micro-electron capture detectors. *Journal of Separation Science* 25: 527-537.
Chem Codes: Chemical of Concern: PSM Rejection Code: CHEM METHODS.

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Database: CAPLUS
Accession Number: AN 2002:519660
Chemical Abstracts Number: CAN 137:164788
Section Code: 4-1
Section Title: Toxicology
Document Type: Journal
Language: written in English.
Index Terms: Pesticides (organochlorine; simultaneous anal. of organophosphorus and organochlorine pesticides in animal fat by gas chromatog. with pulsed flame photometric and micro-electron capture detectors); Pesticides (organophosphorus; simultaneous anal. of organophosphorus and organochlorine pesticides in animal fat by gas chromatog. with pulsed flame photometric and micro-electron capture detectors); Adipose tissue; Electron capture; Flame photometry; Gas chromatography (simultaneous anal. of organophosphorus and organochlorine pesticides in animal fat by gas chromatog. with pulsed flame photometric and micro-electron capture detectors)
CAS Registry Numbers: 50-29-3; 52-85-7 (Famphur); 55-38-9 (Fenthion); 56-72-4 (Coumaphos); 58-89-9 (Lindane); 60-51-5 (Dimethoate); 60-57-1 (Dieldrin); 62-73-7 (Dichlorvos); 72-20-8 (Endrin); 72-43-5 (p,p'-Methoxychlor); 72-55-9; 86-50-0 (Azinphos-methyl); 115-32-2 (Dicofol); 118-74-1 (Hexachlorobenzene); 121-75-5 (Malathion); 298-00-0 (Parathion-methyl); 298-02-2 (Phorate); 309-00-2 (Aldrin); 333-41-5 (Diazinon); 470-90-6 (Chlorfenvinphos); 563-12-2 (Ethion); 732-11-6 (Phosmet); 950-37-8 (Methidathion); 959-98-8 (Endosulfan I); 962-58-3 (Diazinon oxon); 1031-07-8 (Endosulfan sulfate); 1113-02-6 (Omethoate); 2310-17-0 (Phosalone); 2385-85-5 (Mirex); 2921-88-2 (Chlorpyrifos); 5103-74-2 (g-Chlordane); 10265-92-6 (Methamidophos); 22248-79-9 (Tetrachlorvinphos); 29232-93-7 (Pirimiphos-methyl); 30560-19-1 (Acephate); 33213-65-9 (Endosulfan II); 39765-80-5 (trans-Nonachlor); 41198-08-7 (Profenofos); 52918-63-5 (Deltamethrin); 61949-76-6 (cis-Permethrin) Role: ANT (Analyte), ANST (Analytical study) (simultaneous anal. of organophosphorus and organochlorine pesticides in animal fat by gas chromatog. with pulsed flame photometric and micro-electron capture detectors)
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Citations: 34) Anon; Multiresidue Methods 1994, 1
Citations: 35) Anon; Principles and Practices of Method Validation 2000, 179 A method using simultaneous pulsed flame photometric (PFPD) and micro-electron capture detection (mECD) in gas chromatog. (GC) was developed and validated for the anal. of 23 organophosphorus (OP) and 17 organochlorine (OC) pesticides in animal fat. The method entailed the extn. of animal tissue (mixed with twice the sample wt. of sodium sulfate) with 7 mL Et acetate per 1 g tissue. After the blending step, the ext. was centrifuged and 3 mL cyclopentane was added to a 7 mL portion of the ext. A 2.5 mL portion was injected into a 2 cm ID * 22.5 cm Biobeads S-X3 gel permeation chromatog. column (4.5 mL/min flow rate of 70/30 Et acetate/cyclopentane). A 36 mL fraction (from 8 to 16 min) was collected, evapd., and solvent-exchanged to 1 mL final vol. in iso-octane. The GC/PFPD+mECD system used a single injector and column, but the flow was split after the chromatog. sepn. to the two detectors. The final ext. was injected (2 mL) into the GC/PFPD+mECD system for simultaneous anal. of the OP and OC analytes. The PFPD was used in the phosphorus-only mode to detect OPs and the mECD mainly detected halogenated pesticides but a few N-contg. OPs could be sensitively detected with it as well. Recoveries were 60-70% for the bulk majority of pesticides except for methamidophos, acephate, and omethoate which are more difficult in GC anal. due to their more polar nature. Fenthion and phorate also gave more variable recoveries, presumably due to their degrdn. to sulfones and sulfoxides. In fortification recovery expts. at several different concns. over multiple days, reproducibilities of 10-20% relative std. deviation were achieved, and limits of quantitation were typically 10-20 ng/g. [on SciFinder (R)] 1615-9306 organophosphorus/ pesticide/ adipose/ tissue/ GC/ flame/ photometry/ electron/ capture;/ organochlorine/ pesticide/ adipose/ tissue/ GC/ flame/ photometry/ electron/ capture

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<u>Chem Codes</u>: Chemical of Concern: PSM <u>Rejection Code</u>: FATE.

ABSTRACT: BIOSIS COPYRIGHT: BIOL ABS. This report presents the state of industrial waste landfills in Poland. It analyses the contamination of groundwater with industrial wastes at a site belonging to a metallurgical factory located in the Kielce province (central region of Poland). In landfill leachates, there exists a considerable amount of toxic substances like phenols, formaldehyde, cyanides, detergents and others which, due to improper bedding tightness, seriously threatens groundwater, including the drinking water intake for the City of Konskie (located 3 km from the landfill). Toxic substances are washed-out from wastes with rain water and, because of unfavourable geological structure, percolate into the Quaternary and then the Jurassic level. In order to prevent water intake contamination, it is necessary to keep the quantity of water extracted to a reduced level.
MESH HEADINGS: BIOCHEMISTRY
MESH HEADINGS: SANITATION
MESH HEADINGS: SEWAGE
MESH HEADINGS: AIR POLLUTION
MESH HEADINGS: SOIL POLLUTANTS
MESH HEADINGS: WATER POLLUTION
MESH HEADINGS: METHODS
MESH HEADINGS: PLANTS
MESH HEADINGS: SOIL
KEYWORDS: Biochemical Studies-General
KEYWORDS: Public Health: Environmental Health-Sewage Disposal and Sanitary Measures
KEYWORDS: Public Health: Environmental Health-Air
KEYWORDS: Soil Science-General
LANGUAGE: eng